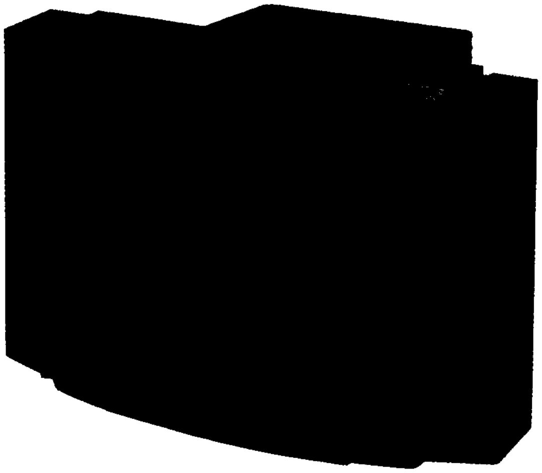
KV-E2523E/E2923E

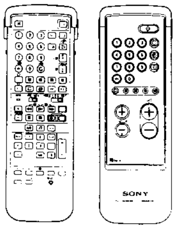
RM-817

SERVICE MANUAL

Spanish Model

KV-E2523E
Chassis No. SCC-E22A-A
KV-E2923E
Chassis No. SCC-E22B-A





AE-1C CHASSIS

MODELS OF THE SAME SERIES	
KV-E2523E/E2923E	

SPECIFICATIONS

【KV-E2523E/E2923E】

Television system	B/G/H
Color system	PAL, SECAM, NTSC3.58, NTSC4.43
Stereo system	GERMAN/NICAM stereo
Channel coverage	VHF: E2-E12 UHF: E21-E69 CABLE TV : S1-S41
Picture tube	Black Trinitron tube Approx. 63.5 cm (25 inches) (Approx. 59 cm picture measured diagonally) 110 ° -degree deflection Approx. 72.4 cm (29 inches) (Approx. 68 cm picture measured diagonally) 110 ° -degree deflection
Inputs	⊖ 1 21-pin connector: CENELEC standard including RGB input. ⊖→ 2 21-pin connector: including S video input ⊖- 3 Audio and video input jacks: phono jack. Y: 1Vp-p±3dB 75ohm C: 0.3Vp-p±3dB 75ohm
Outputs	21-pin connector: CENELEC standard Headphones jack: stereo minijack External speaker terminals: 2-pin DIN Audio output jacks: phono jack (output dependent upon TV settings)
Sound output	30 W + 30 W
Power consumption	102Wh (KV-E2523E) 118Wh (KV-E2923E)
Dimensions incl.speakers	Approx. 757x493x468 mm (w/h/d) (KV-E2523E) Approx. 838x554x517 mm (w/h/d) (KV-E2923E)
Weight incl.speakers	Approx. 41.0kg (KV-E2523E) Approx. 55.0kg (KV-E2923E)

【RM-817】

Remote control system	infrared control
Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Dimentions	Approx. 75×221×23mm(w/h/d)
Weight	Approx. 194g including batters
Accessories supplied	IEC designation R6 Commander
Supplied accessories	RM-817 Remote Commander (1) IEC designation R6 batteries (2)

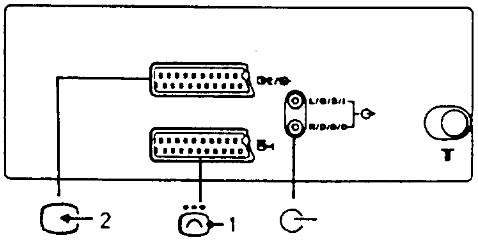
Design and specifications are subject to change without notice.

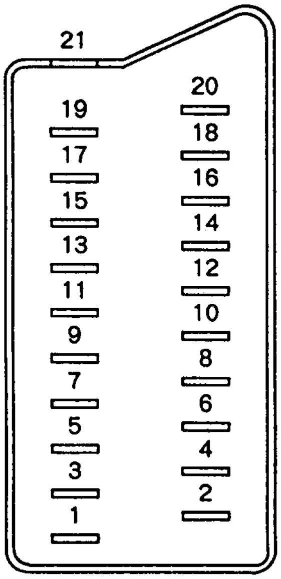
MICROFILM

TRINITRON® COLOR TV

SONY®

21 pin connector (⊙-1, ⊖-2)





Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5Vrms Output impedance : Less than 1kohm*
2	○	○	Audio input B (right)	Standard level : 0.5Vrms Input impedance : More than 10kohms*
3	○	○	Audio output A (left)	Standard level : 0.5Vrms Output impedance : Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5Vrms Input impedance : More than 10kohms*
7	○	●	Blue input	0.7V±3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5−12 V) : Part mode Low state (0−2 V) : TV mode Input impedance : More than 10kohms Input capacitance : Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal : 0.7V±3dB, 75ohms, positve
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	−	Red input	0.7V±3dB, 75ohms, positive
	−	○	(S signal) croma input	0.3V±3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1−3 V) Low state (0−0.4 V) Input impedance : 75ohmes
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V±3dB, 75ohms, positive Sync : 0.3V (−3, +10dB)
20	○	−	Video input	1 V±3dB, 75ohms, positive Sync : 0.3V (−3, +10dB)
	−	○	Video Input/Y (S signal)	1 V±3dB, 75ohms, positive Sync : 0.3V (−3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open) * at 20 Hz−20 kHz

TABLE OF CONTENTS

Section	Title	Page
1.	**GENERAL**	
	NICAM Reception	4
	TV Channel Presetting	5
	Basic Functions	7
	Special Functions	7
	Use of the Teletext Service	8
	Connections and Optional Functions	10
	Use of the Programmable Remote Control Unit	11
	General Information	12
2.	**DISASSEMBLY**	
2-1.	Rear Cover Removal	14
2-2.	Chassis Assembly Removal	14
2-3.	A and J1 Boards Removal	14
2-4.	B1 and V Boards Removal	15
2-5.	Service Position	15
2-6.	Picture Tube Removal	16
3.	**SET-UP ADJUSTMENTS**	
3-1.	Beam Landing	17
3-2.	Convergence	18
3-3.	Focus	20
3-4.	White Balance	20
4.	**CIRCUIT ADJUSTMENTS**	
4-1.	A Board Adjustments	21
4-2.	A1 Board Adjustments	21
4-3.	B1 Board Adjustments	22
4-4.	D Board Adjustments	23
4-5.	J1 Board Adjustments	24
4-6.	V Board Adjustments	24
4-7.	Secondary Adjustments	25
5.	**DIAGRAMS**	
5-1.	Block Diagram	27
5-2.	Circuit Boards Location	33
5-3.	Schematic Diagrams and Printed Wiring Boards	33
5-4.	Semiconductors	66
6.	**EXPLODED VIEWS**	
6-1.	Chassis	68
6-2.	Picture Tube	69
6-3.	Speaker	70
7.	**ELECTRICAL PARTS LIST**	71

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NICAM Reception

Reception of NICAM broadcast is possible if the NICAM adaptor (available at your Sony dealer) is installed in the TV.

When the NICAM broadcast is being received, indicators illuminate according to the sound being heard.
Select the sound you want to hear by pressing the A／B bilingual button. Each time the A／B bilingual button is pressed, the sound will change as indicated with arrows in the following chart.

○ means that the indicator lights up.
× means that the indicator dose not light up.

The NICAM sound being broadcast	The sound you hear (Select with the A／B bilingual button.)	Indicators		
		A	B	∞ * (NICAM)
Stereo	Stereo ◄─┐ ↓	○	○	○
	Regular ──┘	×	×	○
A+B (Bilingual)	A ◄─┐ ↓	○	×	○
	B ↓	×	○	○
	Regular ──┘	×	×	○
A	A ◄─┐ ↓	○	×	○
	Regular ──┘	×	×	○
Regular only	Regular	×	×	×

* When the NICAM adaptor is installed, the ∞ space sound indicator will function as the NICAM indicator (the space sound function will not be affected). When the NICAM broadcast is being received, the NICAM indicator lights up even when the regular sound has been selected.

When you turn on the TV, what sound will be heard?
When the Regular sound and the NICAM sound are the same, the NICAM sound will be heard.
When the Regular sound and the NICAM sound are different, the Regular sound will be heard.

SECTION 1
GENERAL

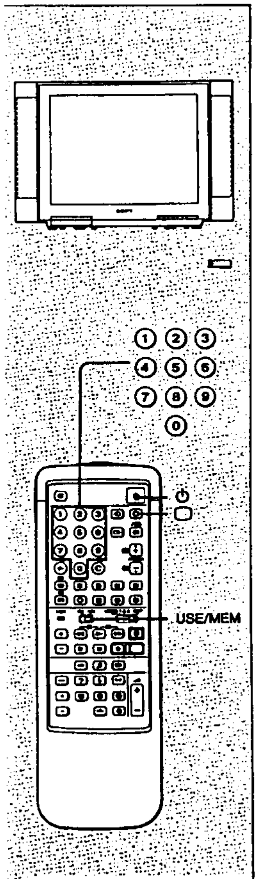
Note) The layout, etc., will be slighriy different from the operating instructions packed with the units.

TV channel presetting

After installing the TV set, TV channels must be preset.

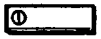
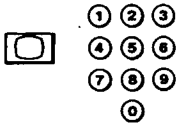
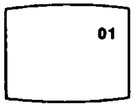
TV broadcasting stations broadcast their programmes on certain fixed frequencies (channels). In order to receive these programmes it is necessary to search for the relevant broadcasting station and to set record it as a channel. The "programme number" is the number that the user decides to associate with a certain channel.

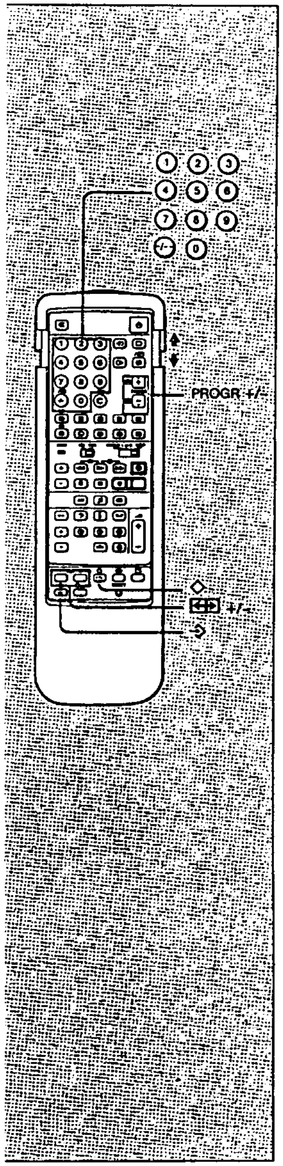
For channel settings there are 60 positions available in the memory. In this way all stations broadcasting within the user's country can be received and recorded as a channel.



NOTE
When the "complete" side of the remote control unit is used, check that the USE/MEM selector is in the USE position.

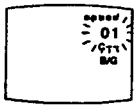
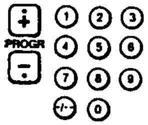
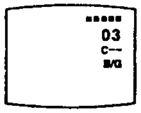
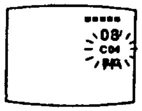
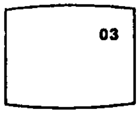
Turning the TV unit ON and OFF

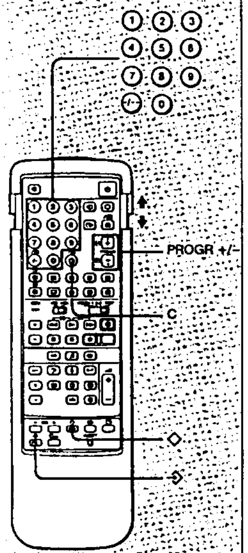
Operation	Result
1 Press ⏻ on the TV set. 	The TV set will come on. **Note:** If no picture appears on the screen, the TV set is in the stand-by mode. In this case follow instructions given in step 2.
2 Press ▢ or one of the selection numbers of the remote control unit. 	 A programme number appears on the screen.
Temporarily turning off the TV set: Press ⏻ on the remote control unit.	The TV set will enter the stand-by mode. It can be turned on again by pressing the ▢ button, or the selection button of the remote control unit.
Turning off the TV set definitively: Press ⏻ on the TV set.	The TV set will be turned off.



TV channels automatic presetting

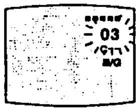
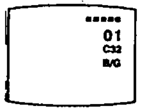
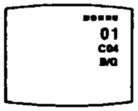
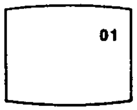
If the numbers to be associated with certain TV channels are already known, the following explanation can be skipped. In this case go directly to the section "TV channels direct selection".

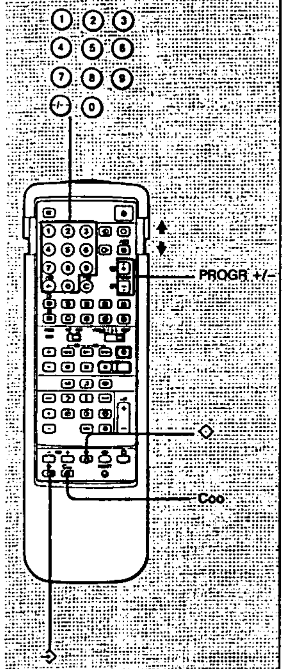
Operation	Result
1 Press ⇾ to begin the preselection.	 The programme number flashes.
2 Press PROGR +/– buttons of the remote control unit to select the channel number of the broadcasting station you want to memorize.  PROGR 1 2 3 4 5 6 7 8 9 -/-- 0 **NOTE:** To select a 2-figure number press the -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The programme number on the screen changes. **NOTE:** In case of a mistake, the "X" letter appears. Repeat once more the operation of step 2.
3 To search for broadcasting stations press ⊞ + and – buttons.	 When a broadcasting station is tuned correctly, the search will stop. If you want to skip it, press ⊞ + or – again.
4 Press ◇ to memorize the channel to that the broadcasting station is tuned.	 All data visualized under the channel number disappears from the screen.
5 To memorize other broadcasting stations repeat steps from 1 to 4.	



Direct TV channel setting

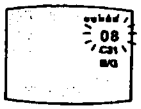
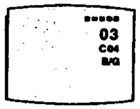
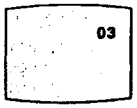
Direct presetting of TV channels is faster than automatic presetting. With this function any broadcasting station can be searched for and set as the desired channel.

Operation	Result
1 Press ⇾ to begin the presetting.	 The programme number begins to flash on the screen.
2 Press the PROGR + /– buttons of the remote control unit to select the channel number under which you want to set the broadcasting station. **Note** To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The programme number on the screen changes. **Note** In case of mistake, the "X" letter appears on the screen. Repeat once more the operation of step 2.
3 Press C. If you wish to select a cable station press C twice.	Indication "C--" ("S--" for cable stations) flashes on the screen
4 By using the number buttons of the remote control unit select the channel number, always with two figures (for "4" press "04"). **Note:** Press the second figures within 5 seconds from the first. After 5 seconds the operation is canceled.	 The channel number changes on the screen.
5 Press ◇ to memorize the channel to which the station is tuned.	 All indications, except the programme number, disappear from the screen.
To memorize other broadcasting stations repeat the above procedure.	



Exclusion of programmes

Once all desired stations have been memorized, unoccupied channel numbers, with stations of inferior quality signals can be excluded. The undesired channels can be excluded by using the PROGR + and – buttons.

Operation	Result
1 Press ⇾ to begin presetting.	 The programme number begins to flash on the screen.
2 By acting on the PROGR + and – buttons, or on the number keys of the remote control unit, select the programme number you wish to exclude.	 The programme number changes.
3 Press Coo.	Under the programme number, the preceding channel number appears.
4 Press ◇ .	 All indications under the programme number disappear from the screen. The excluded programme number will be memorized.

NoteNote
Undesired channels can be excluded only by using PROGR + and – keys.
Excluded programme numbers appear on the screen if you press the number keys of the remote control unit.

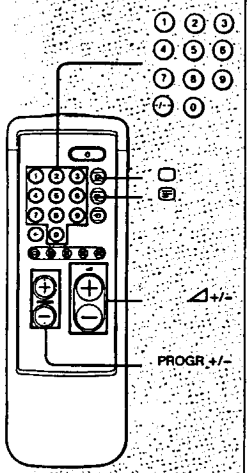
Use of additional tuning functions

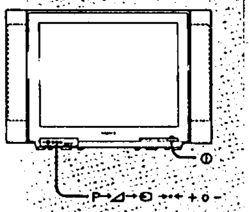
Temporary channel tuning

It is possibile to temporarily memorize a channel, even if it has not been preset.

Operation	Result
1 Press C. Press C twice for a cable station.	"C" ("S" for cable stations) indication appears on the screen.
2 Using the number keys of the remote control unit select the channel number, always with two figures (e.g., "04" for channel "4").	The channel will be received, but it will not be set as a programme number.

Basic functions



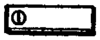
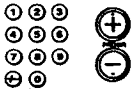
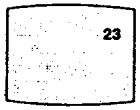


This section of the manual explains the use of the two fundamental functions of the TV set, selection of TV programmes and volume control.

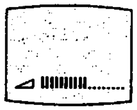
Use the "simple" side of the remote control unit.

Programme selection

Before selecting programmes make sure that TV channels have been memorized.

	Operation	Result
1	Turn the TV set on. 	
2	Press PROGR +/– buttons or the number keys of the remote control unit. To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3. 	 The selected programme number appears on the screen.

Volume control

Operation	Result
Press ⊿ + or –.	 The volume indication appears on the screen.

Use of additional functions

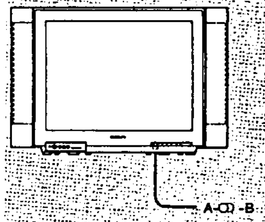
Use of other functions with the TV set buttons

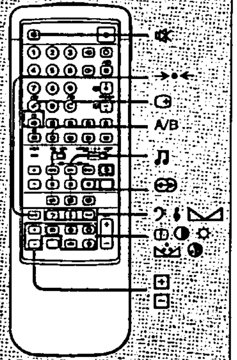
It is also possible to select programmes and to adjust the volume by using P→⊿→⊖ and →•← + or – buttons, located on the front panel of the TV set. In this case, press first P→⊿→⊖ until the indication P (channel) or ⊿ (volume) appears on the screen, and then press →•← + or – buttons.

Use of teletext service

Press ⊜. To revert to the TV mode, press ▢. For further information on the teletext service see pag. 8.

Special functions





This section explains the use of functions for adjusting pictures and sound; for inserting on the screen the name of a channel; and for fine tuning of a channel.

Use the "complete" side of the remote control unit.

Use of special functions

The following functions can be used.

Function	Operation	Reset
Indication display	Press ⊙	Press ⊙ again.
Sound muting	Press 🔇	Press 🔇 again.
Language selection for bilingual programmes.	Press A/B. The selected language is displayed by the relevant indication on the screen.	Press A/B.
Sound adjustment for music programmes.	Press ♫	Press ♫ again.
Use of special sound effects.	Press ⊜	Press ⊜ again.
Time display (only during teletext broadcasting).	Press ◎	Press again.

Picture and sound adjustment

Although picture and sound adjustment has already been performed in the factory, it is still possible to make them more suitable to one's own taste. The following table shows all available functions and their effects.

Operation

Function	Controls to be used	Result
Button selection	●◑☼⋈Ⓘ	The symbol appears on the screen.
Adjustment of the selected function	⊞⊟	The level has been adjusted.

Picture adjustment

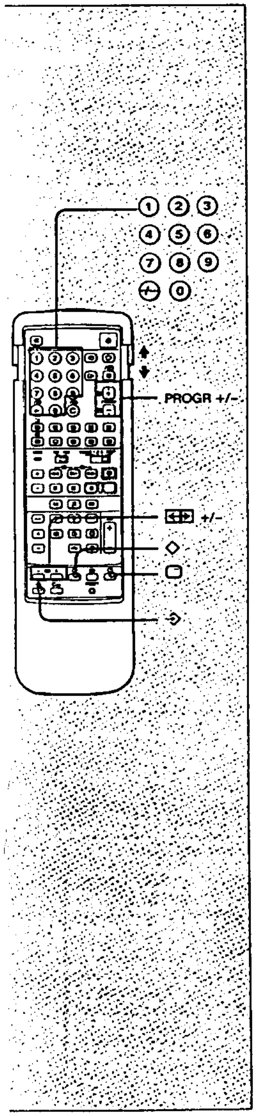
Adjustment	Symbol	Result (+ ↔ –)
Colour	●	Further or lesser colour intensity
Contrast	◑	Further or lesser contrast
Brightness	☼	Bright (↔) dark
Hue (for NTSC only)	♔	More red ↔ more green
Picture definition	Ⓘ	More definition ↔ less definition

Sound adjustment

Adjustment	Symbol	Result (+ ↔ –)
Bass	𝄢	More of low frequencies ↔ less of low frequencies
Treble	𝄞	More of high frequencies ↔ less of high frequencies
Speakers balance	⋈	Volume increase from right speaker ↔ Volume increase from left speaker

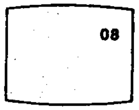
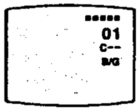
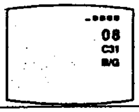
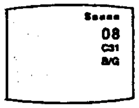
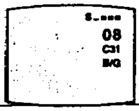
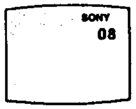
Reversion to the original adjustment

Press →•←.



Broadcasting station identification

By associating a name with a certain broadcasting station it is possible to avoid having to remember, each time, in which channel number that particular station has been memorized.
Five different characters are available for station identification.

Operation	Result
1 By using PROGR + or –, or the number keys of the remote control unit, select the programme number to be set for identification.	 The programme number to be set for identification appears on the screen.
2 Press ⇨	 The number flashes on the screen.
3 Press ▭	 The first indication line flashes on the screen.
4 Using the ⊞ + or – buttons select a letter of the alphabet, a number, or a blank space.	 Alphabet letters, numbers or a blank space ("-") appear on the screen, in that order.
5 Press ▭	 In this way the first character has been set, and the following position now flashes on the screen.
6 Repeat steps 4 and 5, and fill all five available spaces.	
7 Press ◇ .	 All indications under the programme number disappear from the screen. All indications remaining on the screen have been memorized.

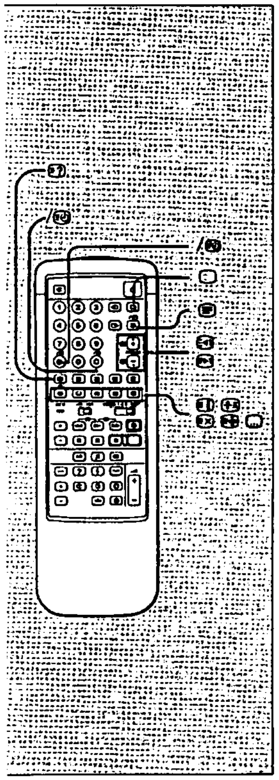
Manual fine tuning

If the picture is not perfect, it is possible to fine tune it manually.

Operation	Result
Press ⊞ + or – repeatedly until the picture is at the optimum.	The indication →F← appears on the screen.
Press ⇨ to start preselection.	The programme number starts flashing on the screen.
Press ◇ .	Manual fine tuning has been memorized.

Note: Manual fine tuning will be reset when the channel is selected again.

Use of the teletext service



Through the teletext service a great deal of information can be received at any time. Broadcasting stations make this service available through TV broadcasts. To use the teletext service, use the green keys on the "complete" side of the remote control unit. When the "simple" side of the remote control unit is used, only the basic functions are available.

How to display teletext service

Operation	Result
1 Select the channel you want to watch.	The channel changes on the screen.
2 Press ⊜	If there is no teletext signal, the indication "Page 100" appears on the screen.
3 Use the number keys of the remote control unit to insert the three figures corresponding to the desired teletext page. **Note** In case of a mistake, press any three numbers, and then repeat the operation with the correct numbers.	The selected page number appears on the screen. After a few seconds, the selected page appears on the screen.

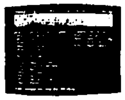
To revert to normal TV programmes:
Press ▭.

To change teletext channel:
First press ▭ to revert to the TV mode, and then repeat procedure steps 1 to 3.

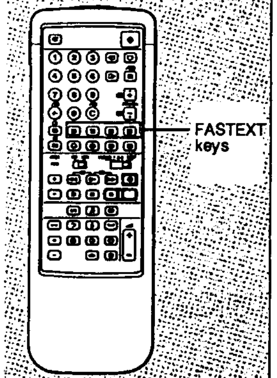
Note: A weak TV signal may cause troubles in the use of teletext.

Use of special teletext functions

Required function	Operation	Result (on the screen)
Page index required.	Press ⊡ (INDEX).	Page index appears.
Sub-pages required (page 888).	Press ▭	The sub-page appears (page 888).
Access to previous or following pages.	Press ⊕ (PAGE +) or ⊖ (PAGE –).	The preceding or the following page appears.

Required function	Operation	Result (on the screen)
Superimposition of the teletext on the TV programme.	In the TV mode, press ⊜ twice. To revert to the normal teletext function press ⊜ again.	Teletext information will appear superimposed on the TV programme.
To prevent page changes due to page up-dating.	Press ⊜ (STILL). Press ⊜ (TXT/MIX) to revert to the normal function.	The ⊜ (STILL) symbol appears on the screen.
Magnification of teletext characters.	Press once to magnify the upper half of the screen. Press twice to magnify the lower half of the screen. Pressing the button three times the normal vision is restored.	The upper or the lower half of the page is magnified.
Display of hidden information (answers to quizzes, ecc.).	Press ⊜ (RIV). Press again to hide the answers.	 The information is displayed.
Watching a programme while the teletext searches for the required page.	1. Ask again for the page.	The number is displayed.
	2. Press ⊜	TV programme is displayed.
	3. When the required page has been found, the page number will be displayed.	
	4. Press ⊜ to display the page.	The desired page will be displayed.
Display of a page at a preset time.	1. Request the page.	The selected page will be displayed.
	2. Press ⊜ (MEM.T).	In the lower part of the screen the indication "T****" appears.
	3. Set the required time by using the number keys, and by inputting four figures (e.g. 0730 for "7:30").	The required time is displayed on the screen.
	To watch TV programmes until a preset time Press ⊜ (CANC.). At the required time, the selected page appears in the upper part of the screen. Press ⊜ to display the page. **To cancel the request** Display the teletext page and then press ⊜ (CANC.M.).	

Note: Depending on the teletext service, certain functions may not be available.



Use of the FASTEXT function

The FASTEXT function allows rapid access, at the touch of a single button, to the teletext functions. In the lower part of the screen, a colour coded index will be displayed when a FASTEXT teletext page is broadcasted. Each colour corresponds to the coloured keys on the remote control unit.

Operation

Operation	Result
Press one of the coloured key on the remote control unit corresponding to the coloured indications of the FASTEXT teletext page.	The selected teletext page appears on the screen.

Note
The correct use of the FASTEXT teletext function depends on the signal being broadcast by the TV stations. Some TV stations may not broadcast FASTEXT teletext signal.

Connections and optional functions

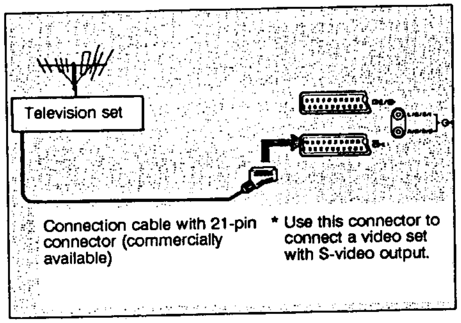
This TV set may be connected to other audio/video machines, such as videocameras, VTRs, videodisc players, or stereo systems.

Connection to an external audio/video system

This TV set incorporates three groups of connectors, for input and output to the TV signal. Each group has the following characteristics.

Connector	Input signal	Output signal
⊜-1	Normal audio/video signal or RGB signal	TV tuner audio/video signal
⊖-2/⊞-	Normal audio/video signal and S-video signal	Audio/video signal from a selectable source
-⊞, ⊕, -⊕ front panel	Normal audio/video signal and S-video signal	No signal

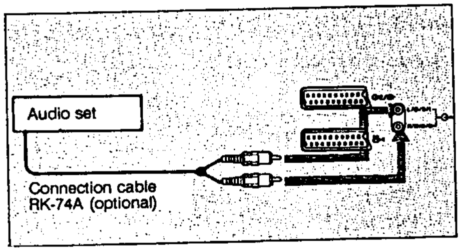
Connection of a TV set



Connection cable with 21-pin connector (commercially available)

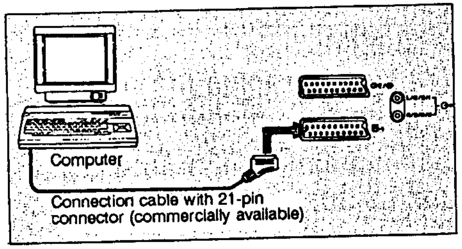
* Use this connector to connect a video set with S-video output.

Connection of an audio unit



Connection cable RK-74A (optional)

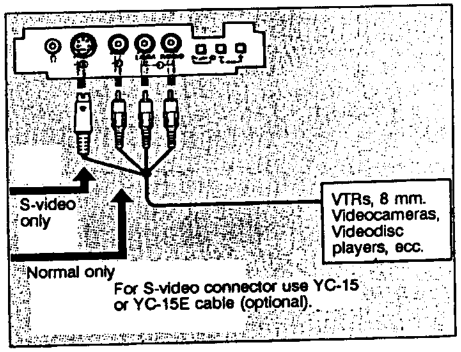
Connection to a computer with RGB output



Connection cable with 21-pin connector (commercially available)

Temporary connection of video apparatus

For a temporary connection (e.g. of a videocamera) use the front panel terminals.



For S-video connector use YC-15 or YC-15E cable (optional).

Connection of a video taperecorder through the T connector

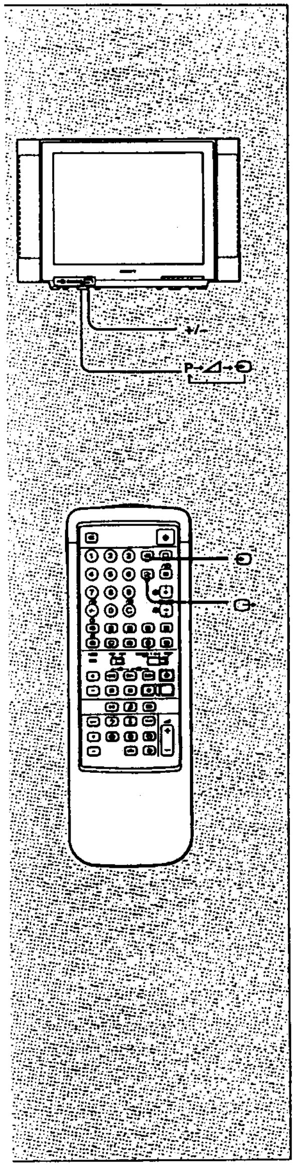
Connect the antenna input (AERIAL-IN) of the TV set to the antenna output (AERIAL-OUT) of the video taperecorder.

S-video input (Y/C input)

The video signal is formed by two separate signals: the luminance (Y) and the chrominance (C). Through the separation of the two signals it is possible to improve picture quality (luminance in particular), preventing reciprocal interferences. This TV set features two S-video sockets able to directly receive this type of signal.

Pictures with distortion

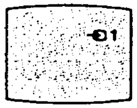
Move the TV set away from the video taperecorder if pictures or sound become distorted.



Video programme playback

Using the input selector, pictures coming from a video taperecorder connected to the TV sets input, may be played back.

Operation

Operation	Result
Select the desired video input by pressing ⊕ repeatedly.	 ⊕1 The symbol of the selected input appears on the screen (see table hereunder).
Press ▭ button to revert to TV mode.	

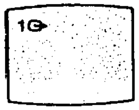
Selectable inputs

Symbol	Selected input
⊕1	Audio/video signal from ⊜-1 connector.
⊛	RGB signal from ⊜-1 connector.
⊕2	Audio/video signal from ⊖-2/⊞- connector.
-⊞2	S-video signal (from a VTR with S-video output) from ⊖-2/⊞- connector.
⊕3	Audio/video signal from ⊕, -⊕connector located on the front panel.
-⊞3	S-video singal from S-video -⊞ (4 pin) connector located on the front panel.
Input can be selected also with P→⊿→⊕ buttons of the TV set. In this case, first select ⊕, and then press the + /– buttons to select the desired input.	

Selection of video output from a ⊖ 2/⊞ connector

The ⊖ 2/⊞- connector may output 4 video signals. Select the outgoing video signal in the following way.

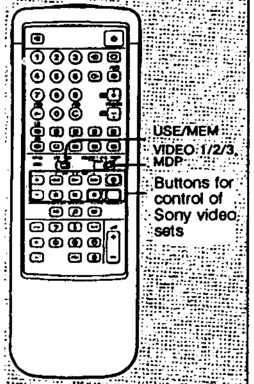
Operation

Operation	Result
Press ⊖ repeatedly to select the desired video input.	 1⊖ The selected video input symbol appears on the screen (see the table following).

Output signal

Symbol	Selected output
1 ⊖	Audio/video signal from ⊜-1 connector.
2 ⊖	Audio/video signal from ⊖ 2/⊞- connector.
3 ⊖	Audio/video signal from ⊕ and -⊕ connectors.
TV ⊖	Audio/video signal from T-type antenna connector T.

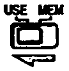
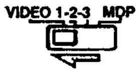
Use of the programmable remote control unit



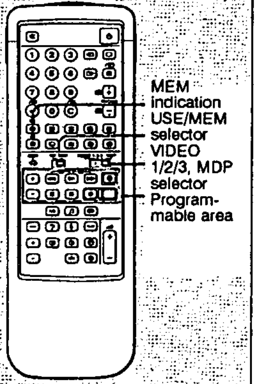
This section explains the use of the remote control unit (supplied) for other audio/video apparatus.
The supplied remote control unit allows you to control Sony video units from a distance. The same remote control unit may be programmed to execute the same function also with other makers set.

Remote control on Sony video sets, without programming the supplied remote control unit

Through the VIDEO 1/2/3, MDP selector button, video apparatus made by Sony (such as Betamax VTRs, 8 mm. VTRs, VHS VTRs and videodisc players) may be controlled from a distance.

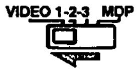
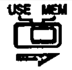
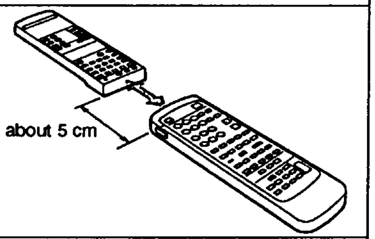
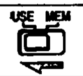
1	Select position USE	
2	With the VIDEO 1/2/3MDP selector button select the position corresponding to the Sony set you wish to control. Positions are as follows: VIDEO 1: Sony Betamax, or Betamax ED VTRs VIDEO 2: Sony 8 mm. VTRs VIDEO 3: Sony VHS VTRs MDP: Sony videodisc players	
3	For remote control of video sets use buttons shown in the illustration. **Note:** When the ● button is used, remember that this button has to be pressed together with the button on the right.	

Note
- If the VTR is being used has a COMMAND MODE selector, it is necessary to select, with this selector, the same position of the VIDEO 1/2/3, MDP selector of the supplied remote control unit.
- Buttons of the remote control unit correspond to functions not available on the VTR, cannot be activated.



Storing signals of other remote control units

Buttons shown in the following illustration may memorize the corresponding functions of other remote control unit.
Up to four functions may be memorized, by associating them with the VIDEO 1/2/3, MDP selector button, to only one button of the remote control unit supplied with the TV set.

1	Select the desired position with the VIDEO 1/2/3, MDP selector button.	
2	Select the position MEM with the mode selector.	
3	Put the remote control unit of the other set in front of the supplied remote control unit.	
4	On the supplied remote control unit press the button corresponding to the function which has to be memorized. The MEM indication lights up. **Note** When the ● button is used, be sure to press it simultaneously with the button on the right side.	
5	Press on the remote control unit the button corresponding to the function which has to be memorized. At the end of the memorization process the MEM indication goes off.	
6	To memorize other functions repeat steps 3 to 5 of this procedure.	
7	At the end of the procedure, select position USE for the supplied remote control unit.	

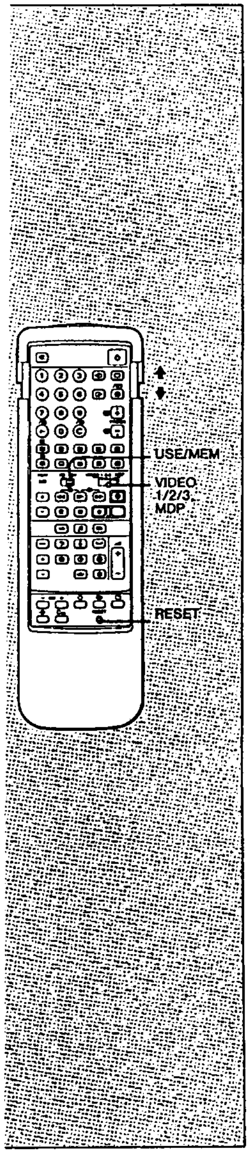
For efficient operation the two remote control units shall be positioned in the following way:
- one in front of the other,
- at an approximate distance of about 5 cm
- completely still during the memorizing operation.

After programming
Check that the video set exactly follows the memorized commands.

In case of incomplete memorization
The MEM indicator will flash. Repeat the procedure starting from step 3.

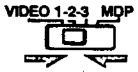
Insertion of a new command in an already memorized button
The previously memorized function will be replaced automatically.

Note on programming
Functions of non-Sony remote control units can be memorized only if these units make use of infrared signals. It may happen that certain particular functions of non-Sony remote control units cannot be memorized.


USE/MEM
VIDEO 1/2/3, MDP
RESET

Cancel of programmed functions

1 With the VIDEO 1/2/3, MDP selector, select the position corresponding to the functions that have to be cancelled.


VIDEO 1-2-3 MDP

2 Select MEM position on the mode selector.

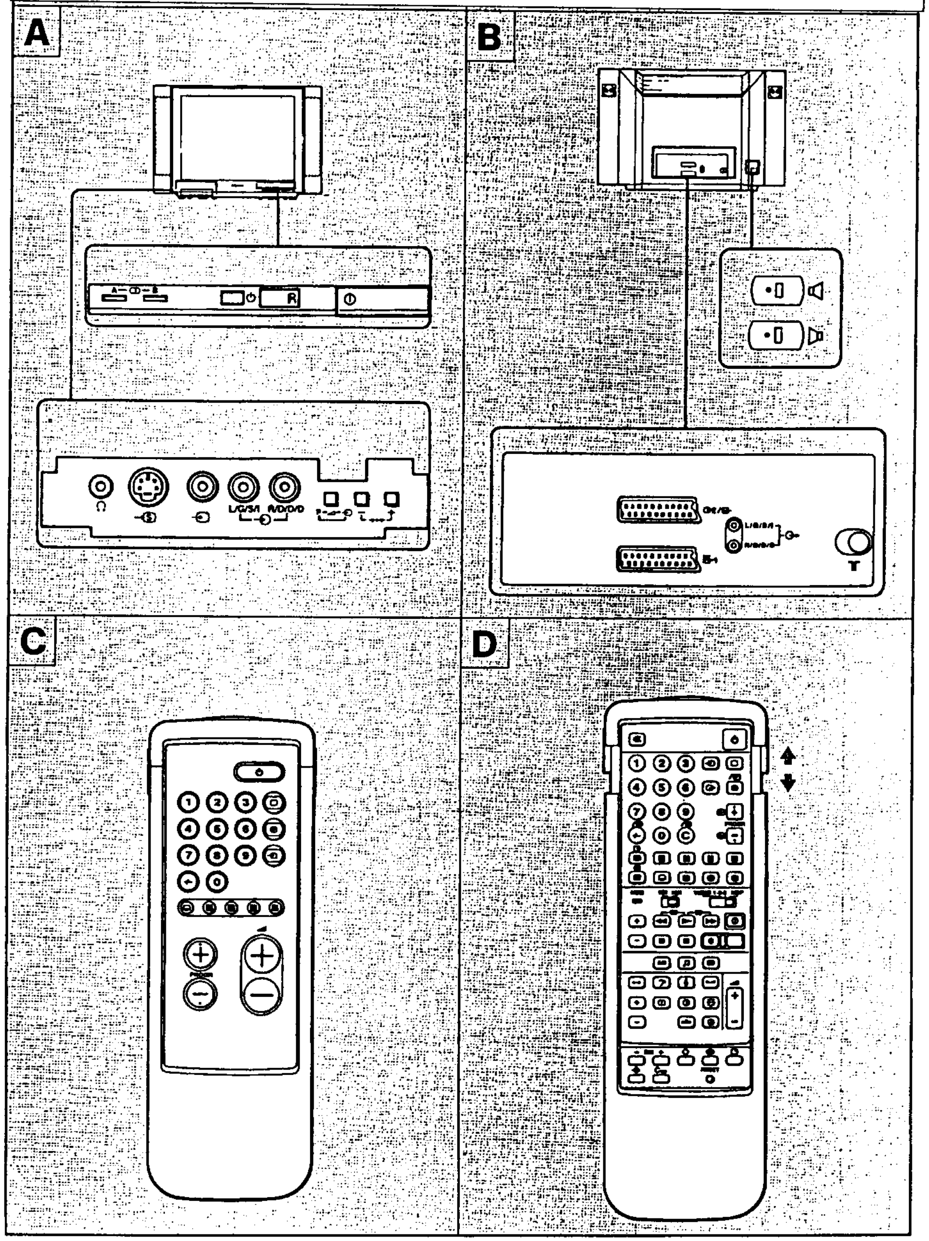
3 Press the RESET button with the point of a pen, or similar.

4 Once the cancel process has been performed, select the USE position on the mode selector.

Note
- Instructions memorized in one single button cannot be cancelled.
- After the programmed functions have been cancelled, functions for controlling Sony video apparatus are still available.

General information

Components identification



This section briefly describes controls of the TV set and the remote control unit, and thier relevant functions. For further details see the page shown on the right side of each description.

A	TV set front panel
Indication	**Description**
⏼	Power switch
⏻	Stand-by switch
A-◯◯-B	Bilingual function indications
🎧	Headphones connector (stereo mini-jack)
⊖⊖ ⊖	Input connectors (S-video/video/audio)
P→◿→⊖	Function selector (programme/volume/input)
– • +	Function adjustment keys

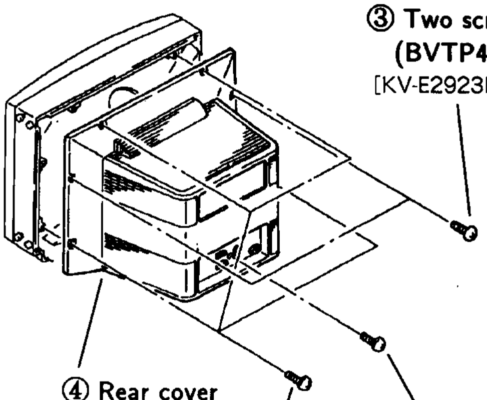
B	TV set rear panel
Indication	**Description**
◁ ▷	Speaker connectors (upper: left speaker; lower: right speaker)
⊖2/⊖	Connector 2, Euro AV (SCART, 21-pin). S-video in/video in/TV/video out signals.
⊖	Connector 1, Euro AV (SCART, 21-pin). RGB in/video in/TV/out signals.
⊖	Audio output connectors (RCA pin)
┬	Antenna connector (of IEC standard)

C	Remote contro unit — simplified side
Indication	**Description**
⊖	Input selector
⊜	Teletext service key
▢	TV set power switch and TV mode selector
⏻	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
-/--	Channel selection key/ 2-figure programmes
◿ +/-	Volume adjustment key
PROGR +/-	Programme selection key

D	Remote control unit — complete side
Indication	**Description**
🔇	Sound muting key
⏻	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
⊖	Input selector
▢	TV set power switch and TV mode selector
⊖	Output selector
⊜	Teletext key
♫	Music programme key
A/B	Bilingual programmes language selection
-/--	Channel selection key/ 2-figure programmes
C	Channel direct selection key
⊕	Special sound effect key
◎	Time display
⊡⊡⊡⊡ ⊡⊡⊡⊡	Teletext operation keys
⊖	Display key
→•←	Reset key
◿ +/-	Volume adjustment keys
PROGR +/–	Programme selection keys
◯◑☼◐ ◿?+–	Image and audio adjustment keys
MEM	MEM light indication
USE/MEM	Normal/programme mode selector
VIDEO 1/2/3, MDP	Video unit selector
◀◀ ▶ ▶▶ ■ ❚❚ ●	Video units function key
Coo	Programme cancelling key
⇢	Channel presetting key
+ ⊟ –	Channel tuning keys
◇	Channel storing keys
▢	Broadcasting stations identification key
RESET	Cancel key

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL



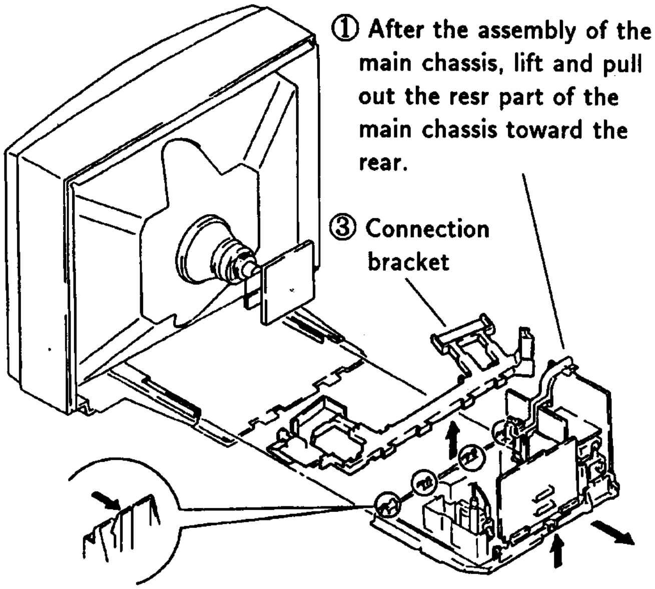
③ Two screws (BVTP4x16) [KV-E2923E only]

④ Rear cover

① One screw (BVTP4x16)

② Four screws (BVTP4x16)

2-2. CHASSIS ASSEMBLY REMOVAL

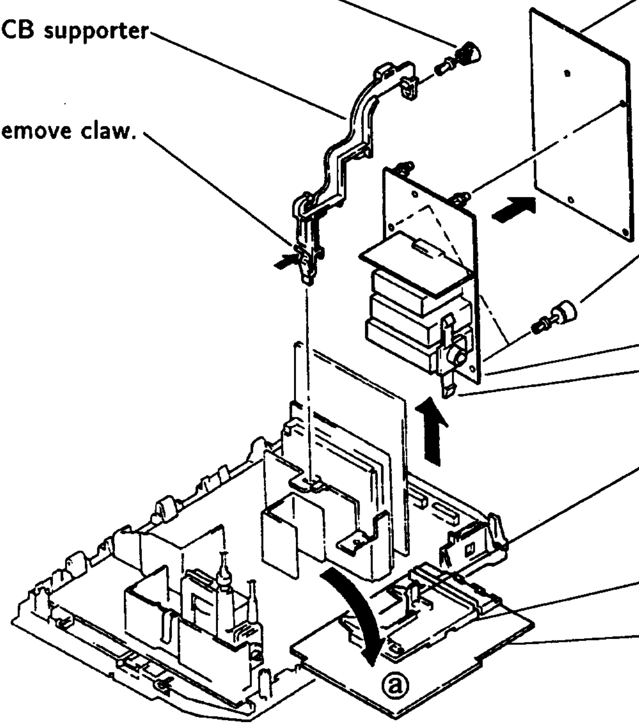


① After the assembly of the main chassis, lift and pull out the resr part of the main chassis toward the rear.

③ Connection bracket

② Push the four claws of the main chassis in the direction of the arrow and remove the comecting bracket upwards.

2-3. A AND J1 BOARDS REMOVAL



④ Remove the T type rivet.

⑥ PCB supporter

⑤ Remove claw.

③ A1 board

⑦ Remove the two T type rivets.

⑨ A board

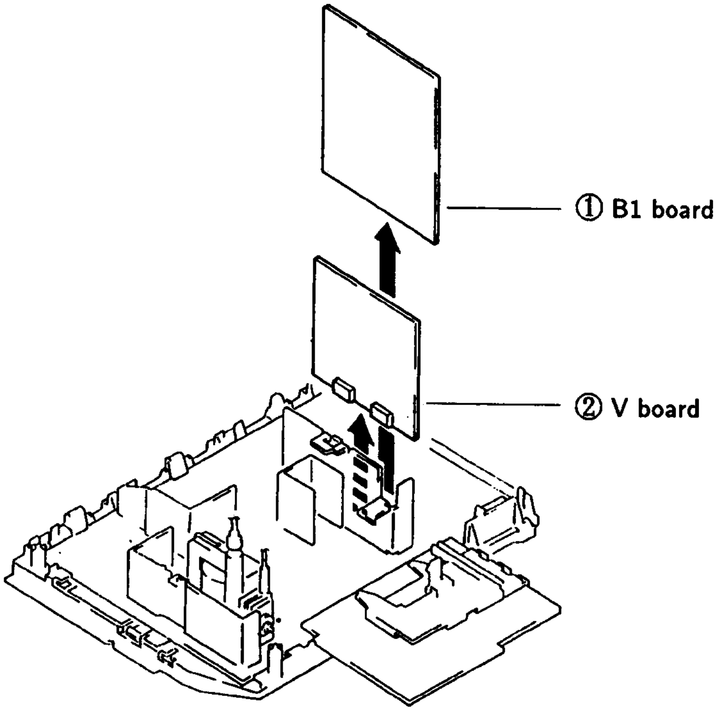
⑧ Remove the claw.

① Remove the claw.

J bracket

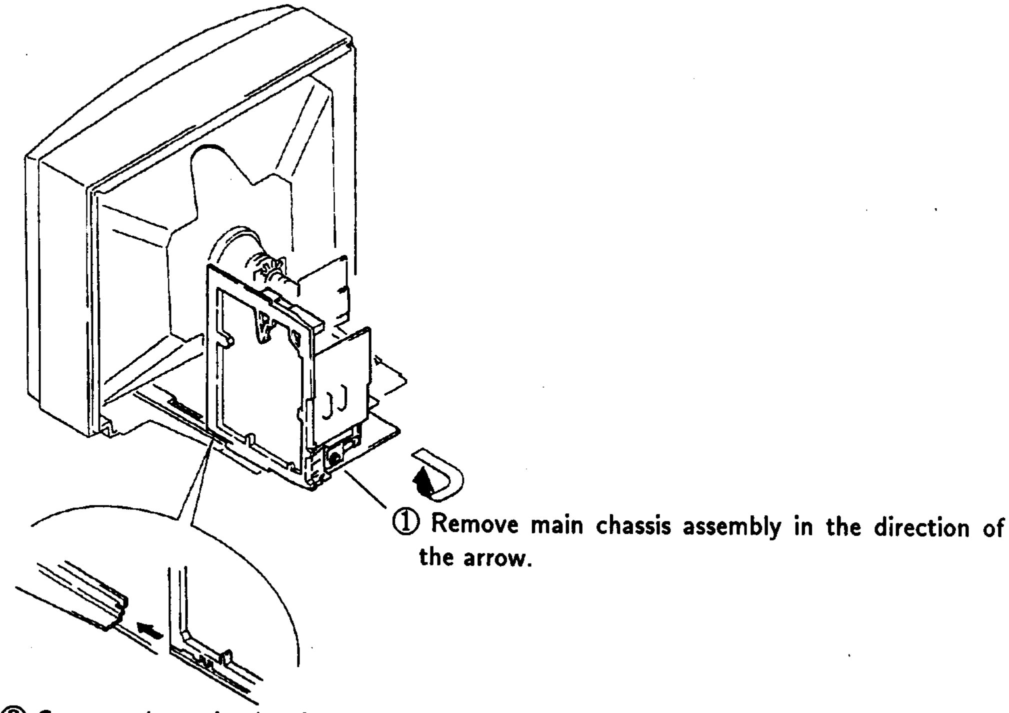
② Open the J1 board in the direction of the arrow ⓐ.

2-4. B1 AND V BOARDS REMOVAL


① B1 board
② V board

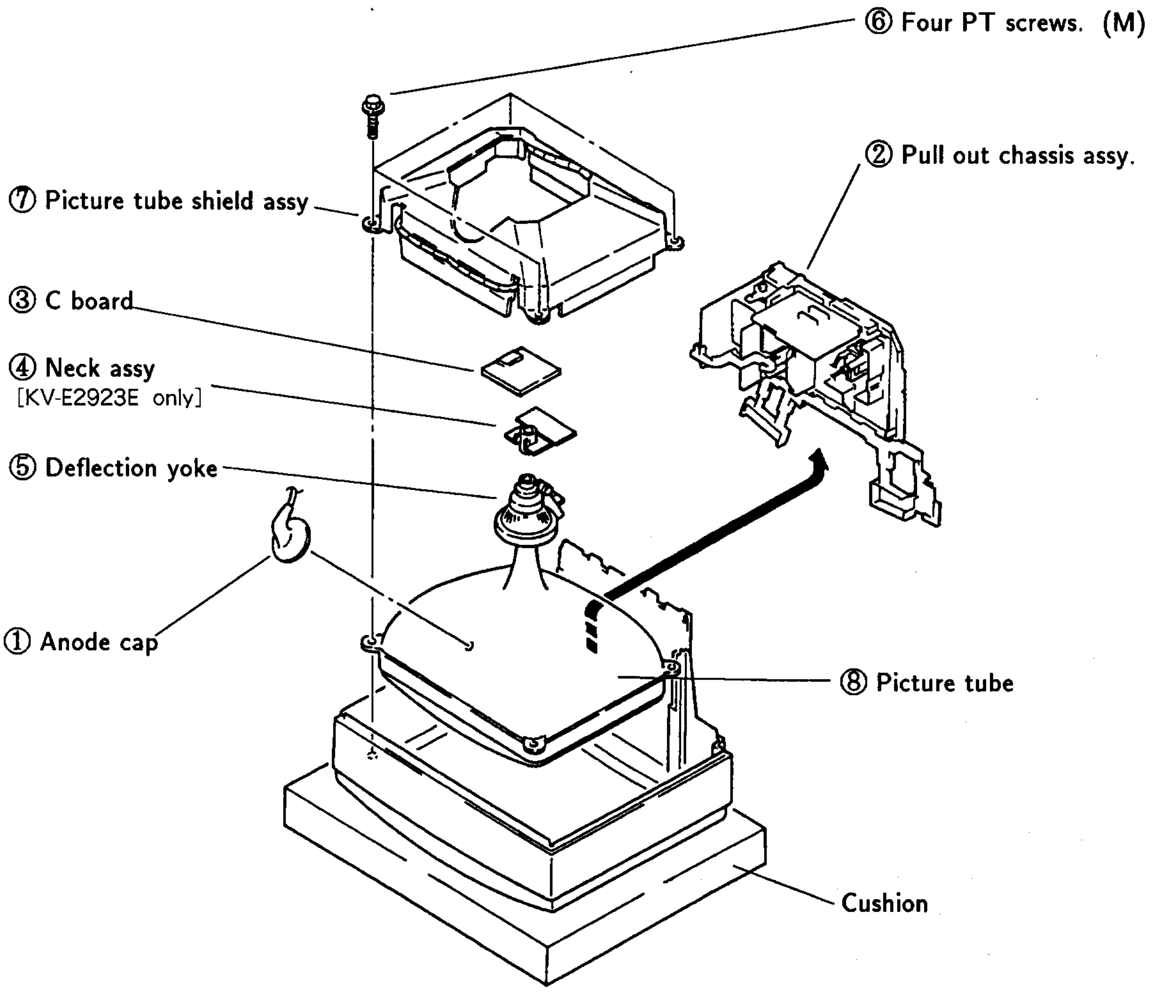
2-5. SERVICE POSITION

* Remove the connector bracket from the main chassis assembly and then perform the following servicing.
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)


① Remove main chassis assembly in the direction of the arrow.

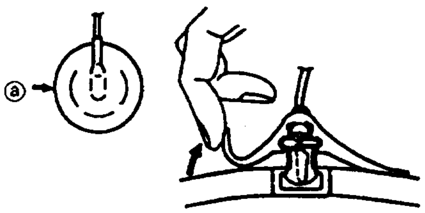
② Connect the main chassis on assembly the holder.

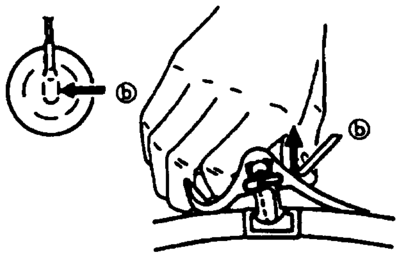
2-6. PICTURE TUBE REMOVAL

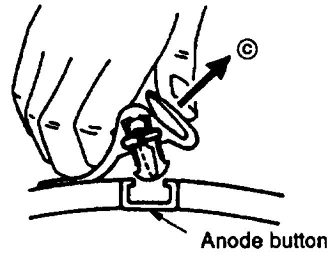

⑥ Four PT screws. (M)
② Pull out chassis assy.
⑦ Picture tube shield assy
③ C board
④ Neck assy
[KV-E2923E only]
⑤ Deflection yoke
① Anode cap
⑧ Picture tube
Cushion

• REMOVAL OF ANODE-CAP

• REMOVING PROCEDURES






ⓒ
Anode button

① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

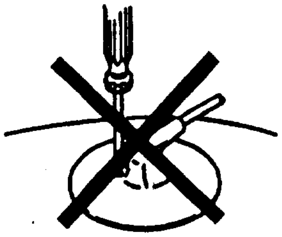
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

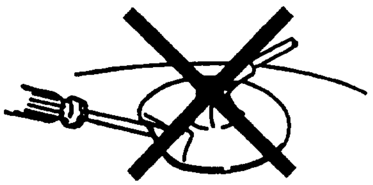
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECITON 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :

◑ Contrast ·········80%
(or remote control normal)
☼ Brightness ·········50%

- Carry out the following adjustments in this order:
  1. Beam landing
  2. Convergence
  3. Focus
  4. White balance

Note : Testing equipment required
1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :
- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Bightness }
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Figure 3-4.)

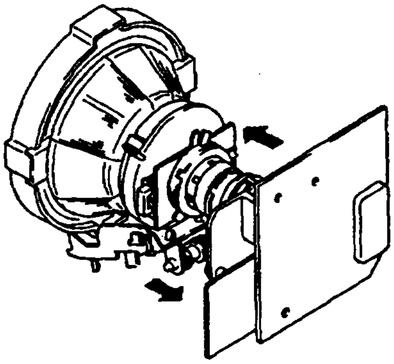
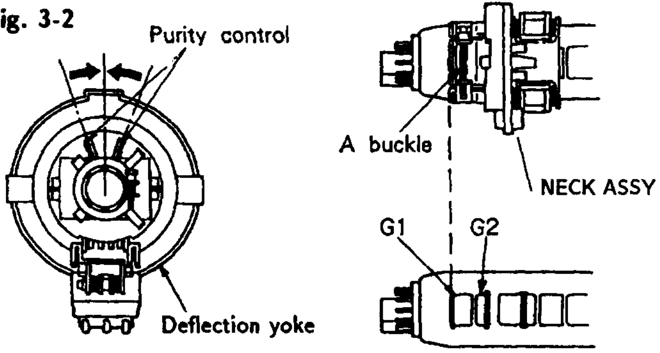


Fig. 3-1

Fig. 3-2


Purity control
A buckle
NECK ASSY
Deflection yoke
G1
G2
(29 inch only)

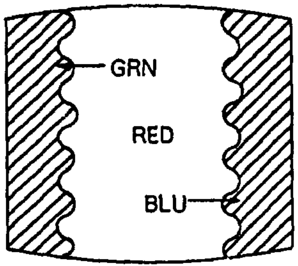


Fig. 3-3

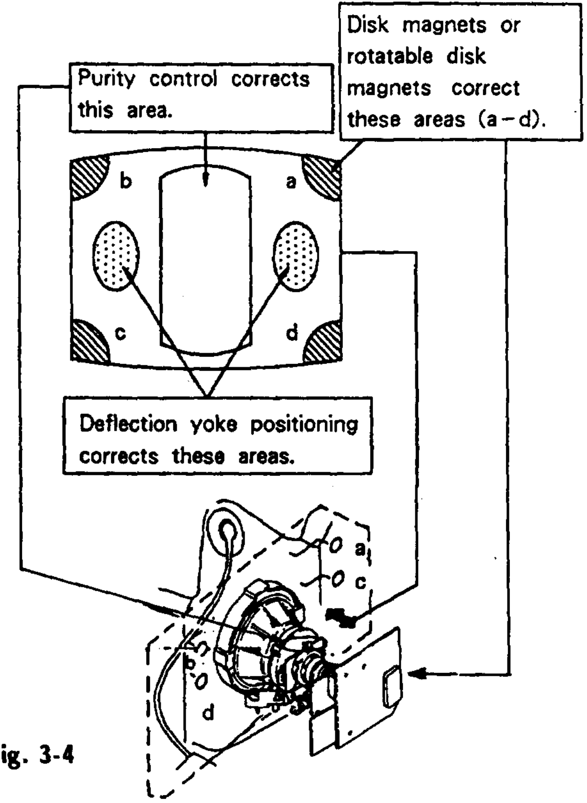

Disk magnets or rotatable disk magnets correct these areas (a−d).
Purity control corrects this area.
b
a
c
d
Deflection yoke positioning corrects these areas.
a
c
b
d

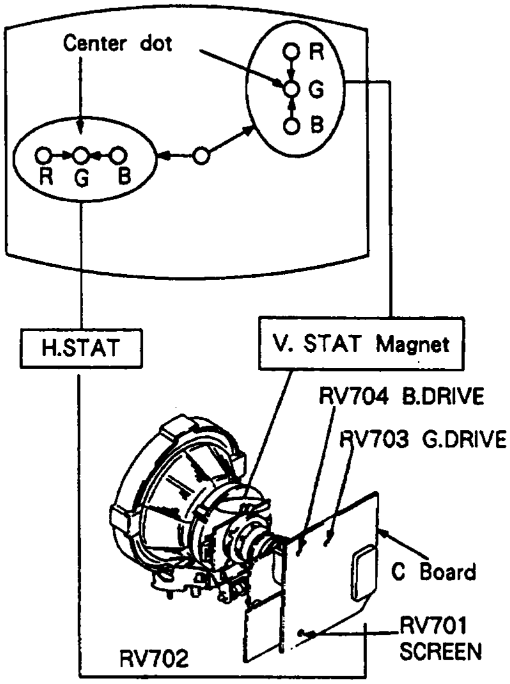
Fig. 3-4

3-2. CONVERGENCE

Preparations :

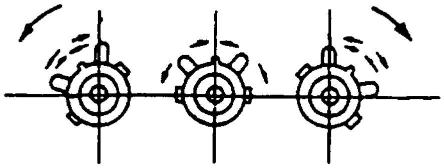
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence



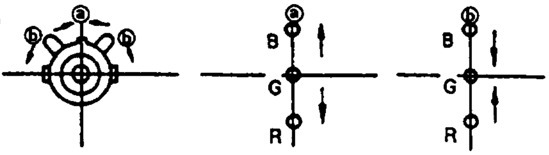
1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

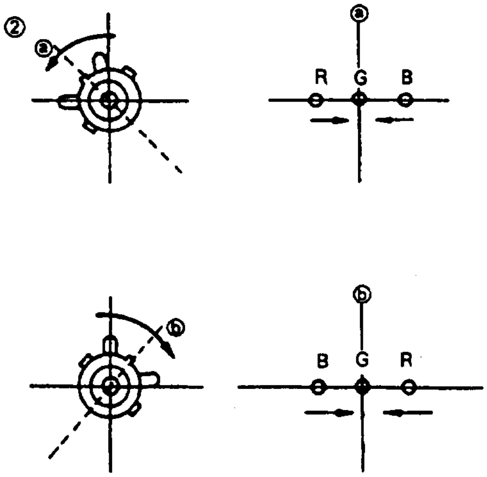


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.

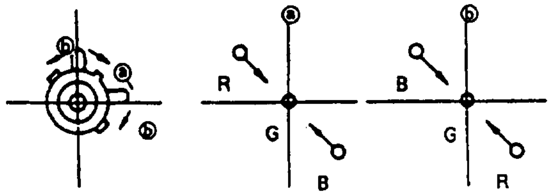
①



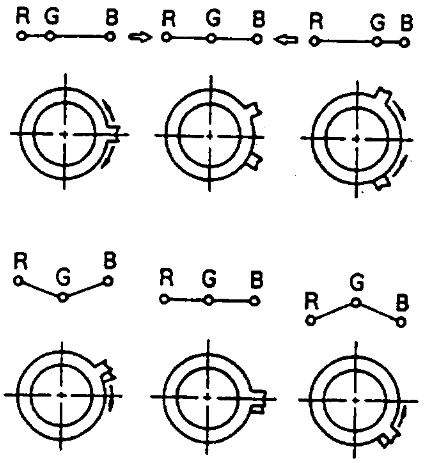
②

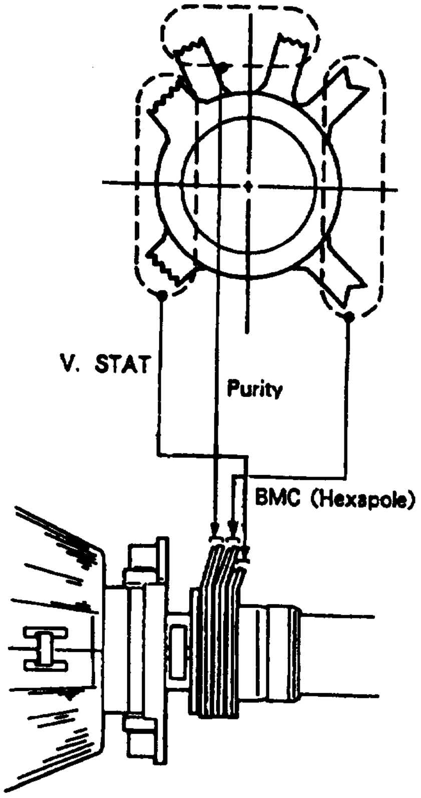


③



- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B


V. STAT
Purity
BMC (Hexapole)

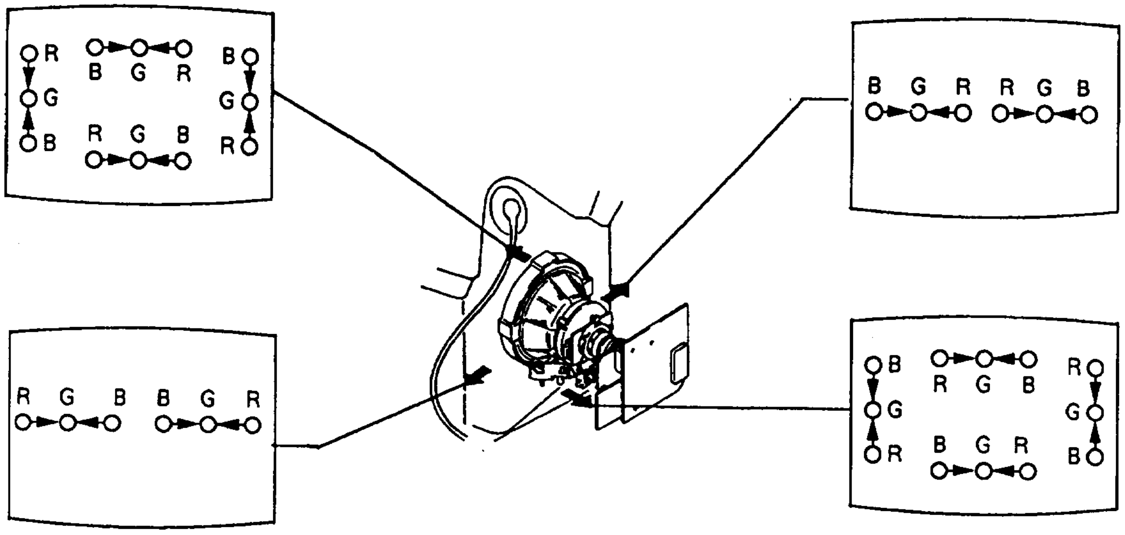
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) Dynamic convergence adjustment

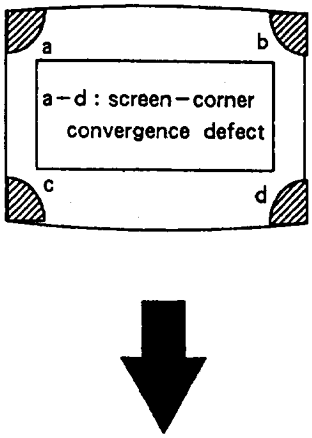
Preparations :

Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

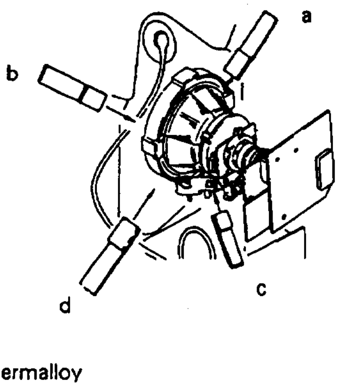
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the defelection yoke spacer.


R G B
B G R
B G R
R G B
B G R R G B
R G B B G R
B G R
R G B
B G R
R G B

(3) Screen corner convergence

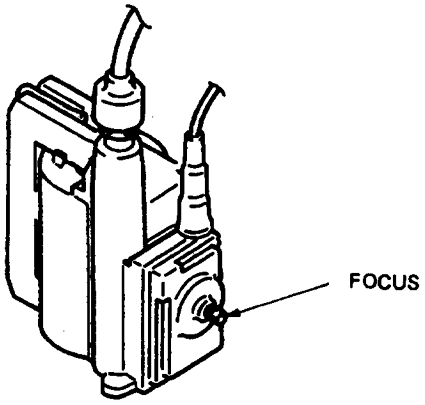


Install the permalloy assembly for the section with faulty.



3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

[Screen G2 setting]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

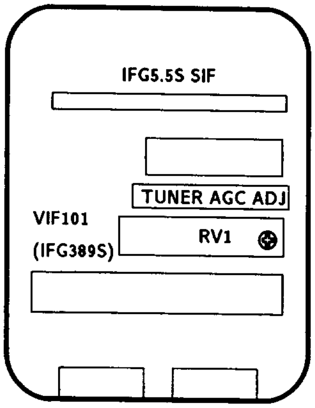
[White balance adjustment]

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENTS

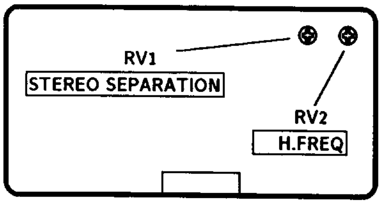


A BOARD (COMPONENT SIDE)

TUNER AGC ADJUSTMENT (VIF101, RV1)

1. Align with an appropriate signal between stations.
2. Adjust RV1 so that snow noise and cross modulation just disappear from the picture.

IFG5.5S SIF



IFG5.5S SIF -component side-

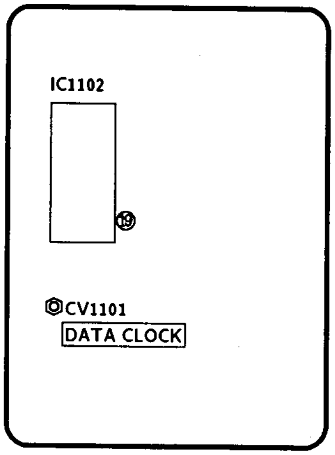
STEREO SEPALATION ADJUSTMENT (RV1)

1. Input a STEREO signals. (L-CH 400Hz, R-CH 1KHz)
2. Check the stereo indicator.
3. Connect on oscilloscope to pin⑧ (CH1) of CN1 through band pass filter of 1KHz
4. Adjust RV1 so that 1KHz voltage goes down to the minmum.

H FREQ (RV2)

1. Input a PAL color bar signal, then connect a jumper between pin⑫ IC4 and GND.
2. Connect a frequency counter to pin④ IFG5.5S (HP) of CN1 through a probe of 10 : 1.
3. Adjust RV2 (H.FREQ) 15.625±50Hz.
4. After adjustment, remove the jamper.

4-2. A1 BOARD ADJUSTMENT

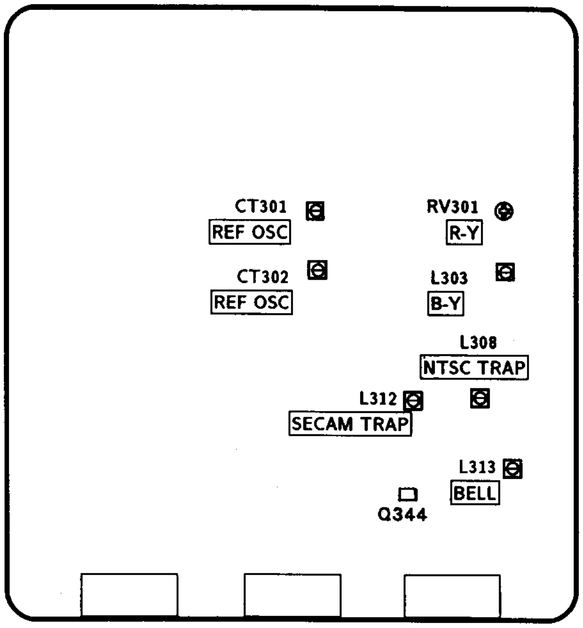


A1 BOARD (COMPONENT SIDE)

DATA CLOCK Adjustment (CV1101)

1. Tune in a no signal.
2. Connect a frequency counter to pin ⑲ of IC1102 (PCLK) through a probe of 10:1.
3. Adjust CV1101 (DATA CLOCK) so that frequency becomes 728.022KHz±1Hz.

4-3. B1 BOARD ADJUSTMENTS



B1 BOARD (COMPONENT SIDE)

REFERENCE OSCILLATOR ADJUSTMENT (CT302 8.8MHz)

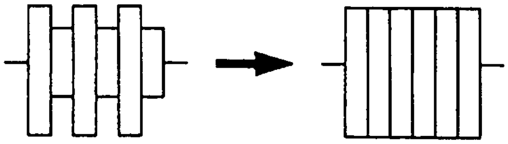
1. Input a PAL color bar signal.
2. Ground pin ⑰ of the IC304.
3. Adjust CT302 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT301 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑰ of IC304.
3. Adjust the CT301 to obtain synchronization.
4. Remove the jumper grounding pin ⑰ of IC304.

BELL FILTER ADJUSTMENT (L313)

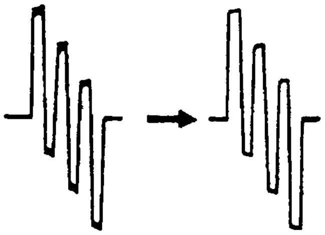
1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.



<Before Adjustment> <After Adjustment>

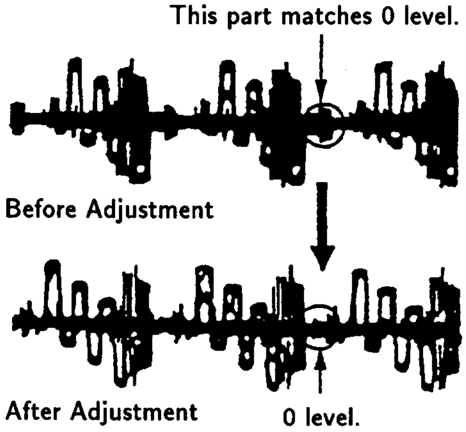
1H DELAY LINE ADJUSTMENT (L303, RV301)

1. Input a PAL color bar signal.
2. Connect the oscilloscope to pin ③ (B-Y) of IC304 and observe the waveform of the H block on the oscilloscope.
3. Adjust L303 to minimize the double waveform outline.



Before Adjustment After Adjustment

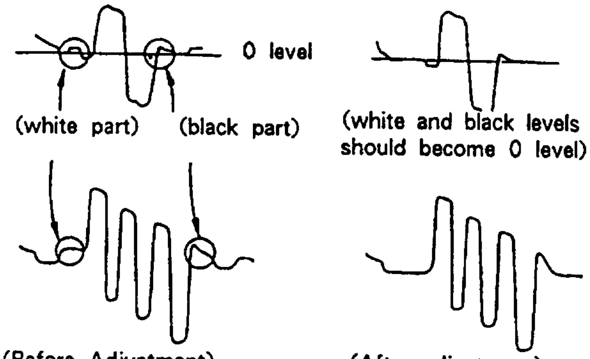
4. Input a PAL test color bar signal.
5. Rotate the RV301 and adjust till the ANTI-PAL part of the waveform matches the 0 level.



6. L303 and RV301 affect each other, Repeat till the conditions of both met.

DISCRIMINATION ADJUSTMENT (RV301 and L303)

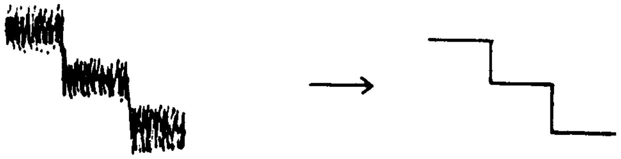
1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC304.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level.
4. Connect the oscilloscope to pin ③ of IC304.
5. Adjust L303 until the white and black sections of the waveform at pin ③ are at the 0 level.



(Before Adjustment) (After adjustment)

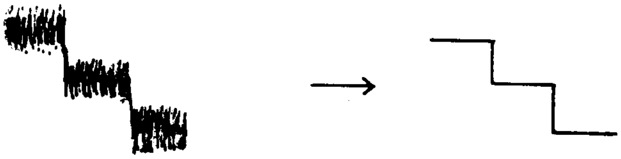
SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

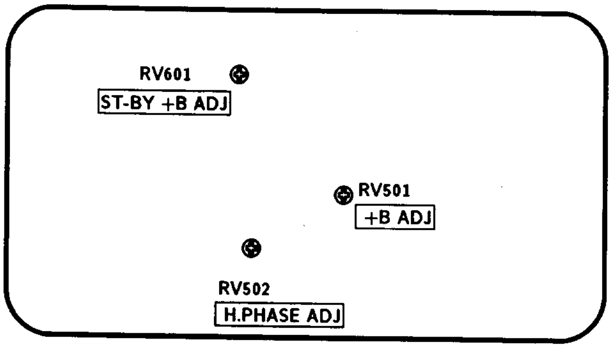


NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



4-4. D BOARD ADJUSTMENTS



D BOARD (COMPONENT SIDE)

+B ADJUSTMENT (RV501)

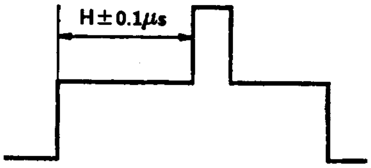
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain 135±0.2V.

ST-BY +B ADJUSTMENT (RV601)

1. Put the system into ⏻ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain 135±3V.
4. Take the system out of ⏻ standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

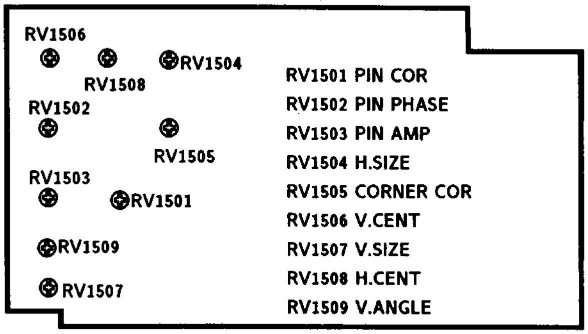
1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to H±0.1μs.



Standard of H. PHASE

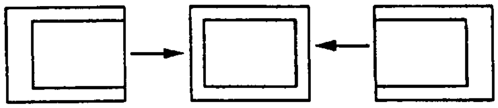
Model Size	H
25″	5.1μs
29″	5.5μs

4-5. J1 BOARD ADJUSTMENTS

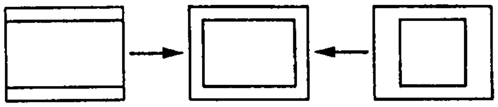

RV1506
RV1504
RV1508
RV1502
RV1505
RV1503
RV1501
RV1509
RV1507
RV1501 PIN COR
RV1502 PIN PHASE
RV1503 PIN AMP
RV1504 H.SIZE
RV1505 CORNER COR
RV1506 V.CENT
RV1507 V.SIZE
RV1508 H.CENT
RV1509 V.ANGLE

J1 BOARD (COMPONENT SIDE)

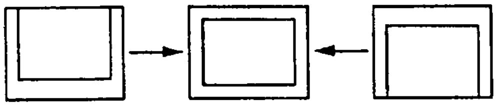
RV1508
H. CENT (HORIZONTAL CENTER)



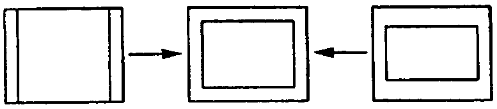
RV1504
H. SIZE (HORIZONTAL SIZE)



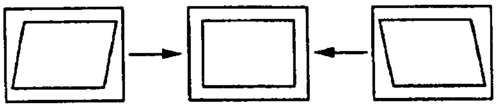
RV1506
V. CENT (VERTICAL CENTER)



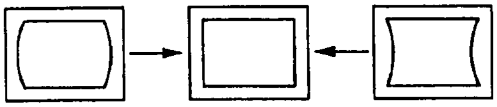
RV1507
V. SIZE (VERTICAL SIZE)



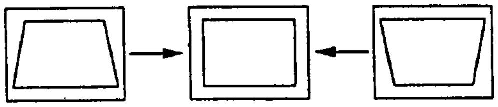
RV1509
V. ANGLE (VERTICAL ANGLE)



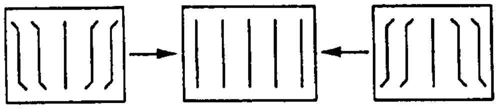
RV1503
PIN AMP (PINCUSHION AMPLIFIER)



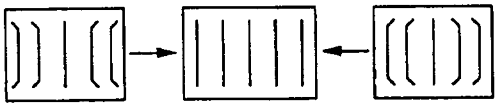
RV1502
PIN PHASE (PINCUSHION PHASE)



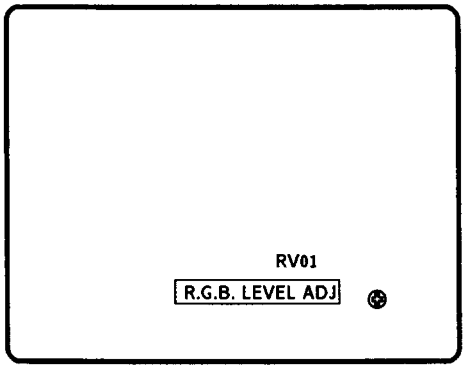
RV1501
PIN. COR (PINCUSHION CORRECT)



RV1505
CORNER. COR (CORNER CORRECT)



4-6. V BOARD ADJUSTMENTS


RV01
R.G.B. LEVEL ADJ

V BOARD (COMPONENT SIDE)

RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.

4-7. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press →•← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and − simultaneusly, turn on the power. (SUB mode is obtained)
5. Minimize the ◑ contrast setting.
6. Adjust the ☼ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the ◇ (store) button of the remote commander.
   (SUB mode is released)

If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press →•← on the remote commander to put the system into normal mode.
   Set the ⊕ color to its normal state.

3-5. Steps are the same as above.

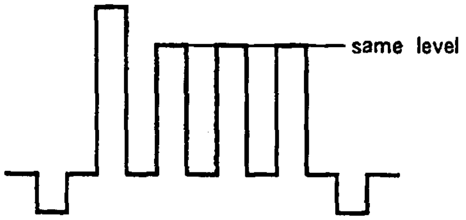
6. Since 20 IRE is nearly blue, adjust the ☼ brightness control so that the blue barely glows.

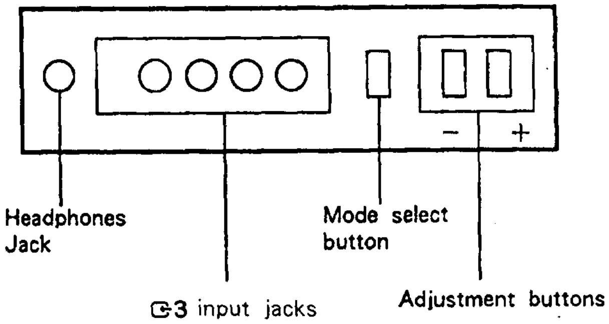
7. Same as step 7 above.

8. Press →•← on the remote commander to put the system into normal mode.

SUB COLOR ADJUSTMENT

1. Set the system to receive color bars.
2. Press →•← on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and − simultaneusly, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the ◇ (store) button of the remote commander. (SUB mode is released)



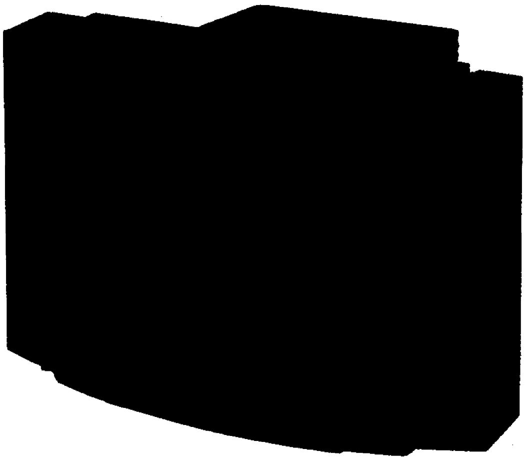


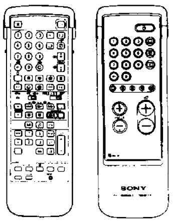
KV-E2522U/E2922U
RM-817

SERVICE MANUAL

UK Model

KV-E2522U
Chassis No. SCC-E23A-A
KV-E2922U
Chassis No. SCC-E23B-A





AE-1C CHASSIS

MODELS OF THE SAME SERIES	
KV-E2522U/E2922U	

SPECIFICATIONS

【KV-E2522U/E2922U】

Television system	I
Color system	PAL, SECAM, NTSC3.58, NTSC4.43
Stereo system	NICAM stereo
Channel coverage	UHF: E21-E69
Picture tube	Black Trinitron tube Approx. 63.5 cm (25 inches) (Approx. 59 cm picture measured diagonally) 110 ° -degree deflection Approx. 72.4 cm (29 inches) (Approx. 68 cm picture measured diagonally) 110 ° -degree deflection
Inputs	⊖- 1 21-pin connector: CENELEC standard including RGB input. ⊖- 2 21-pin connector: including S video input ⊖- 3 Audio and video input jacks: phono jack. Y: 1Vp-p ± 3dB 75ohm C: 0.3Vp-p ± 3dB 75ohm
Outputs	21-pin connector: CENELEC standard Headphones jack: stereo minijack External speaker terminals: 2-pin DIN Audio output jacks: phono jack (output dependent upon TV settings)
Sound output	30 W + 30 W
Power consumption	148W (KV-E2522U) 155W (KV-E2922U)
Dimensions incl.speakers	Approx. 757x493x468 mm (w/h/d) (KV-E2522U) Approx. 838x554x517 mm (w/h/d) (KV-E2922U)
Weight incl.speakers	Approx. 41.0kg (KV-E2522U) Approx. 55.0kg (KV-E2922U)

【RM-817】

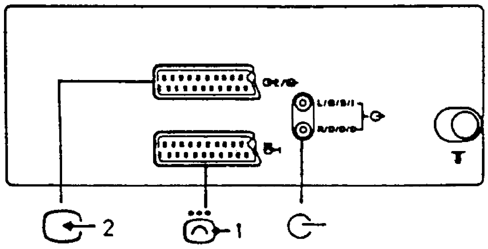
Remote control system	infrared control
Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Dimentions	Approx. 75 × 221 × 23mm(w/h/d)
Weight	Approx. 194g including batters
Accessories supplied	IEC designation R6 Commander
Supplied accessories	RM-817 Remote Commander (1) IEC designation R6 batteries (2)

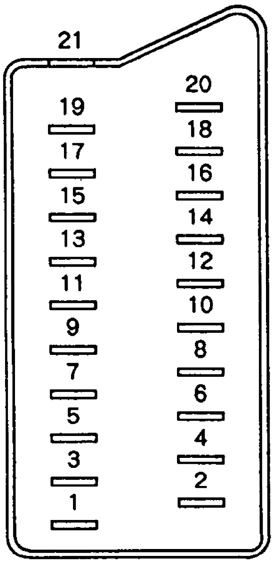
Design and specifications are subject to change without notice.

MICROFILM

TRINITRON® COLOUR TV
SONY®

21 pin connector (⊝1, ⊝2)





Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5Vrms Output impedance : Less than 1kohm*
2	○	○	Audio input B (right)	Standard level : 0.5Vrms Input impedance : More than 10kohms*
3	○	○	Audio output A (left)	Standard level : 0.5Vrms Output impedance : Less than 1kohm*
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5Vrms Input impedance : More than 10kohms*
7	○	●	Blue input	0.7V±3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5−12 V) : Part mode Low state (0−2 V) : TV mode Input impedance : More than 10kohms Input capacitance : Less than 2 nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal : 0.7V±3dB, 75ohms, positve
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	-	Red input	0.7V±3dB, 75ohms, positive
	-	○	(S signal) croma input	0.3V±3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1−3 V) Low state (0−0.4 V) Input impedance : 75ohmes
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V±3dB, 75ohms, positive Sync : 0.3V (−3, +10dB)
20	○	-	Video input	1 V±3dB, 75ohms, positive Sync : 0.3V (−3, +10dB)
	-	○	Video Input/Y (S signal)	1 V±3dB, 75ohms, positive Sync : 0.3V (−3, +10dB)
21	○	○	Common ground (plug, shield)	

○ connected ● unconnected (open) * at 20 Hz−20 kHz

TABLE OF CONTENTS

Section Title Page

1. GENERAL

NICAM Reception 4
TV Channel Presetting 5
Basic Functions 7
Special Functions 7
Use of the Teletext Service 8
Connections and Optional Functions 10
Use of the Programmable Remote Control Unit 11
General Information 12

2. DISASSEMBLY

2-1. Rear Cover Removal 14
2-2. Chassis Assembly Removal 14
2-3. A and J1 Boards Removal 14
2-4. B1 and V Boards Removal 15
2-5. Service Position 15
2-6. Picture Tube Removal 16

3. SET-UP ADJUSTMENTS

3-1. Beam Landing 17
3-2. Convergence 18
3-3. Focus 20
3-4. White Balance 20

4. CIRCUIT ADJUSTMENTS

4-1. A Board Adjustments 21
4-2. A1 Board Adjustments 21
4-3. B1 Board Adjustments 22
4-4. D Board Adjustments 23
4-5. J1 Board Adjustments 24
4-6. V Board Adjustments 24
4-7. Secondary Adjustments 25

5. DIAGRAMS

5-1. Block Diagram 27
5-2. Circuit Boards Location 33
5-3. Schematic Diagrams and Printed Wiring Boards 33
5-4. Semiconductors 66

6. EXPLODED VIEWS

6-1. Chassis 68
6-2. Picture Tube 69
6-3. Speaker 70
7. ELECTRICAL PARTS LIST 71

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

NICAM Reception

Reception of NICAM broadcast is possible if the NICAM adaptor (available at your Sony dealer) is installed in the TV.

When the NICAM broadcast is being received, indicators illuminate according to the sound being heard.
Select the sound you want to hear by pressing the A/B bilingual button. Each time the A/B bilingual button is pressed, the sound will change as indicated with arrows in the following chart.

O means that the indicator lights up.
× means that the indicator dose not light up.

The NICAM sound being broadcast	The sound you hear (Select with the A/B bilingual button.)	Indicators A	B	⊛* (NICAM)
Stereo	Stereo ◄	O	O	O
	↓ Regular	×	×	O
A+B (Bilingual)	A ◄	O	×	O
	↓ B	×	O	O
	↓ Regular	×	×	O
A	A ◄	O	×	O
	↓ Regular	×	×	O
Regular only	Regular	×	×	×

* When the NICAM adaptor is installed, the ⊛ space sound indicator will function as the NICAM indicator (the space sound function will not be affected). When the NICAM broadcast is being received, the NICAM indicator lights up even when the regular sound has been selected.

When you turn on the TV, what sound will be heard?
When the Regular sound and the NICAM sound are the same, the NICAM sound will be heard.
When the Regular sound and the NICAM sound are different, the Regular sound will be heard.

SECTION 1
GENERAL

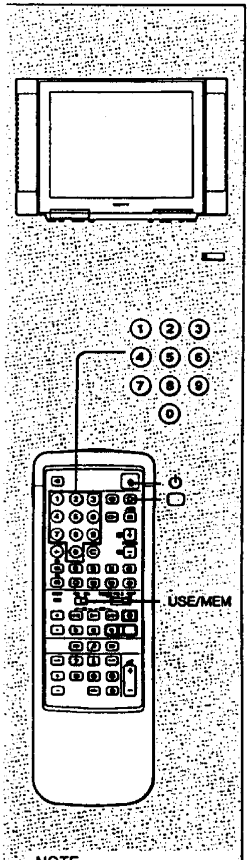
Note) The layout, etc., will be slighriy different from the operating instructions packed with the units.

TV channel presetting

After installing the TV set, TV channels must be preset.

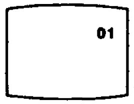
TV broadcasting stations broadcast their programmes on certain fixed frequencies (channels). In order to receive these programmes it is necessary to search for the relevant broadcasting station and to set record it as a channel. The "programme number" is the number that the user decides to associate with a certain channel.

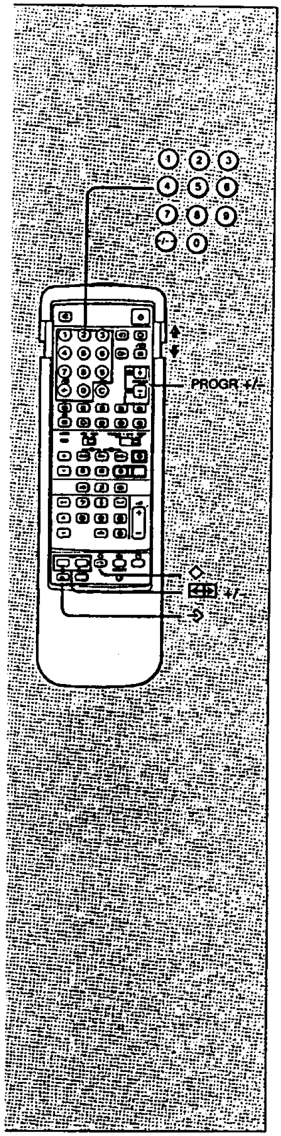
For channel settings there are 60 positions available in the memory. In this way all stations broadcasting within the user's country can be received and recorded as a channel.



NOTE
When the "complete" side of the remote control unit is used, check that the USE/MEM selector is in the USE position.

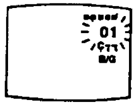
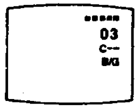
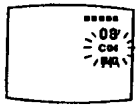
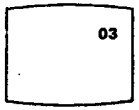
Turning the TV unit ON and OFF

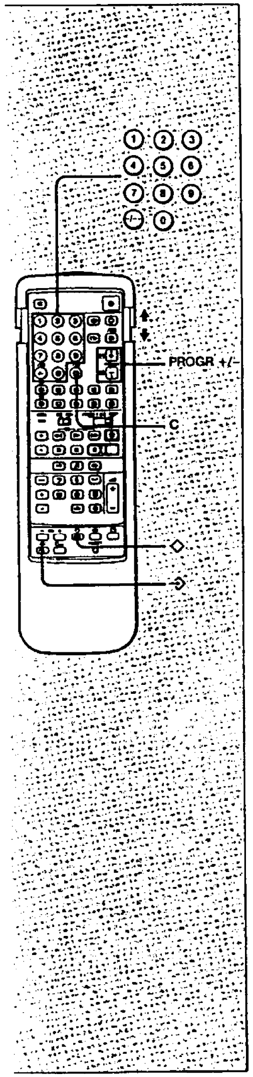
Operation	Result
1 Press ⏻ on the TV set.	The TV set will come on. **Note:** If no picture appears on the screen, the TV set is in the stand-by mode. In this case follow instructions given in step 2.
2 Press ▢ or one of the selection numbers of the remote control unit. ①②③ ④⑤⑥ ⑦⑧⑨ ⓪	 A programme number appears on the screen.
Temporarily turning off the TV set: Press ⏻ on the remote control unit.	The TV set will enter the stand-by mode. It can be turned on again by pressing the ▢ button, or the selection button of the remote control unit.
Turning off the TV set definitively: Press ⏻ on the TV set.	The TV set will be turned off.



TV channels automatic presetting

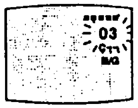
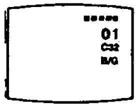
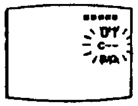
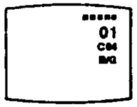
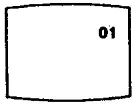
If the numbers to be associated with certain TV channels are already known, the following explanation can be skipped. In this case go directly to the section "TV channels direct selection".

Operation	Result
1 Press ⇓ to begin the preselection.	 The programme number flashes.
2 Press PROGR +/– buttons of the remote control unit to select the channel number of the broadcasting station you want to memorize. + ①②③ PROGR ④⑤⑥ – ⑦⑧⑨ -/-- ⓪ NOTE: To select a 2-figure number press the -/– button. E.g., if you wish to select number 23, press -/– first, and then 2 and 3.	 The programme number on the screen changes. NOTE: In case of a mistake, the "X" letter appears. Repeat once more the operation of step 2.
3 To search for broadcasting stations press ⊞ + and – buttons. – ⊞ +	 When a broadcasting station is tuned correctly, the search will stop. If you want to skip it, press ⊞ + or – again.
4 Press ◇ to memorize the channel to that the broadcasting station is tuned.	 All data visualized under the channel number disappears from the screen.
5 To memorize other broadcasting stations repeat steps from 1 to 4.	

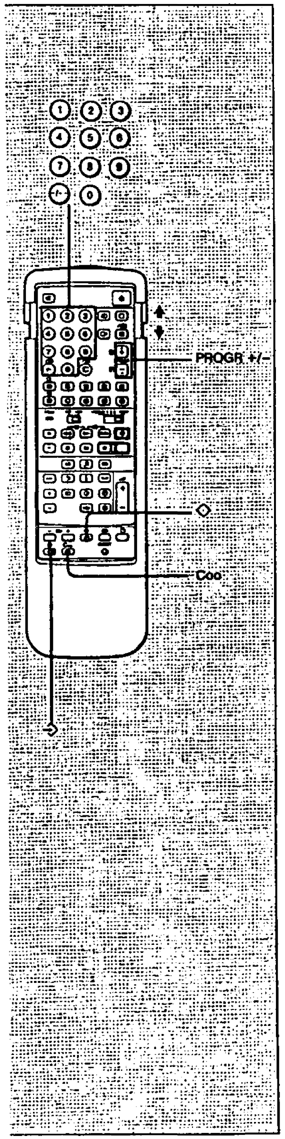


Direct TV channel setting

Direct presetting of TV channels is faster than automatic presetting. With this function any broadcasting station can be searched for and set as the desired channel.

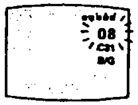
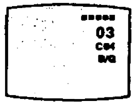
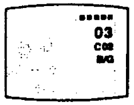
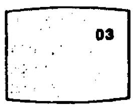
Operation	Result
1 Press ⇨ to begin the presetting.	 The programme number begins to flash on the screen.
2 Press the PROGR +/- buttons of the remote control unit to select the channel number under which you want to set the broadcasting station. + PROGR - ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ -/- ⓪ **Note** To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3.	 The programme number on the screen changes. **Note** In case of mistake, the "X" letter appears on the screen. Repeat once more the operation of step 2.
3 Press C. If you wish to select a cable station press C twice. Ⓒ	 Indication "C--" ("S--" for cable stations) flashes on the screen
4 By using the number buttons of the remote control unit select the channel number, always with two figures (for "4" press "04"). ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪ **Note:** Press the second figures within 5 seconds from the first. After 5 seconds the operation is canceled.	 The channel number changes on the screen.
5 Press ◇ to memorize the channel to which the station is tuned.	 All indications, except the programme number, disappear from the screen.

To memorize other broadcasting stations repeat the above procedure.



Exclusion of programmes

Once all desired stations have been memorized, unoccupied channel numbers, with stations of inferior quality signals can be excluded. The undesired channels can be excluded by using the PROGR + and – buttons.

Operation	Result
1 Press ⇨ to begin presetting.	 The programme number begins to flash on the screen.
2 By acting on the PROGR + and – buttons, or on the number keys of the remote control unit, select the programme number you wish to exclude. + PROGR - ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ -/- ⓪	 The programme number changes.
3 Press Coo.	 Under the programme number, the preceding channel number appears.
4 Press ◇.	 All indications under the programme number disappear from the screen. The excluded programme number will be memorized.

NoteNote
Undesired channels can be excluded only by using PROGR + and – keys.
Excluded programme numbers appear on the screen if you press the number keys of the remote control unit.

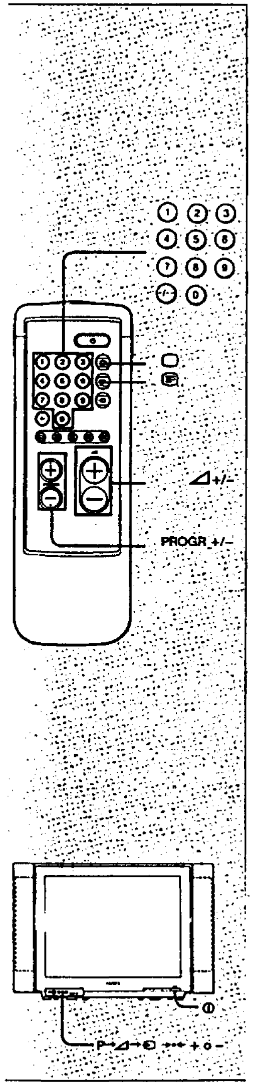
Use of additional tuning functions

Temporary channel tuning

It is possibile to temporarily memorize a channel, even if it has not been preset.

Operation	Result
1 Press C. Press C twice for a cable station.	"C" ("S" for cable stations) indication appears on the screen.
2 Using the number keys of the remote control unit select the channel number, always with two figures (e.g., "04" for channel "4").	The channel will be received, but it will not be set as a programme number.

Basic functions

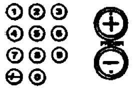
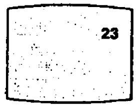


This section of the manual explains the use of the two fundamental functions of the TV set, selection of TV programmes and volume control.

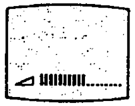
Use the "simple" side of the remote control unit.

Programme selection

Before selecting programmes make sure that TV channels have been memorized.

Operation	Result
1 Turn the TV set on.	
2 Press PROGR +/– buttons or the number keys of the remote control unit. To select a 2-figure number press -/-- button. E.g., if you wish to select number 23, press -/-- first, and then 2 and 3. 	 The selected programme number appears on the screen.

Volume control

Operation	Result
Press ◿ + or –.	 The volume indication appears on the screen.

Use of additional functions

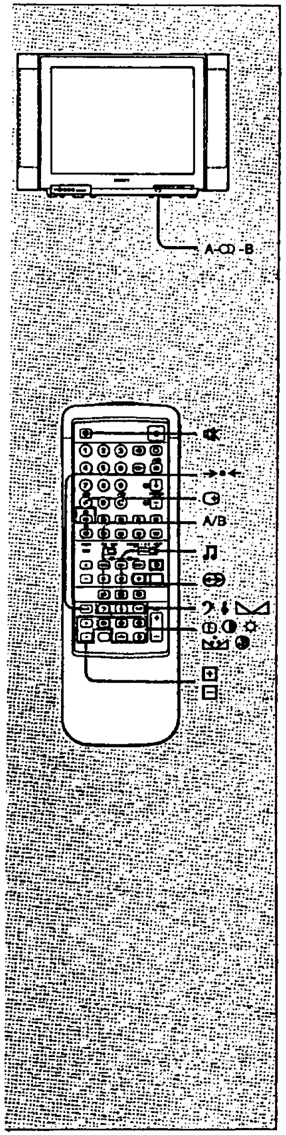
Use of other functions with the TV set buttons

It is also possible to select programmes and to adjust the volume by using P→◿→⊖ and →•← + or – buttons, located on the front panel of the TV set. In this case, press first P→◿→⊖ until the indication P (channel) or ◿ (volume) appears on the screen, and then press →•← + or – buttons.

Use of teletext service

Press ⊜. To revert to the TV mode, press ▭. For further information on the teletext service see pag. 8.

Special functions



This section explains the use of functions for adjusting pictures and sound; for inserting on the screen the name of a channel; and for fine tuning of a channel.

Use the "complete" side of the remote control unit.

Use of special functions

The following functions can be used.

Function	Operation	Reset
Indication display	Press ⊖	Press ⊖ again.
Sound muting	Press 🔇	Press 🔇 again.
Language selection for bilingual programmes.	Press A/B. The selected language is displayed by the relevant indication on the screen.	Press A/B.
Sound adjustment for music programmes.	Press ♫	Press ♫ again.
Use of special sound effects.	Press ⊕	Press ⊕ again.
Time display (only during teletext broadcasting).	Press ⊚	Press again.

Picture and sound adjustment

Although picture and sound adjustment has already been performed in the factory, it is still possible to make them more suitable to one's own taste. The following table shows all available functions and their effects.

Operation

Function	Controls to be used	Result
Button selection	●◑☼⋈◿Ⓓ	The symbol appears on the screen.
Adjustment of the selected function	⊞⊟	The level has been adjusted.

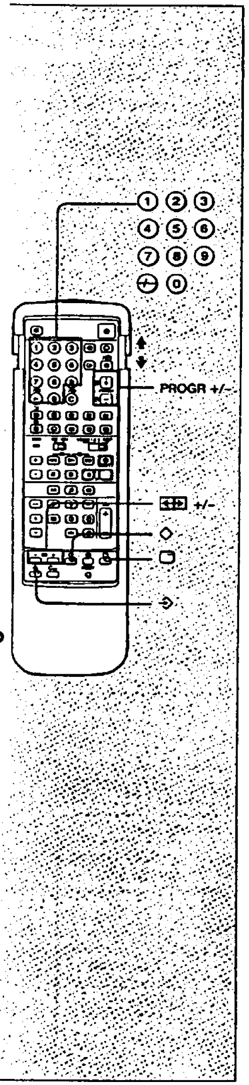
Picture adjustment

Adjustment	Symbol	Result (+ ↔ –)
Colour	●	Further or lesser colour intensity
Contrast	◑	Further or lesser contrast
Brightness	☼	Bright (↔) dark
Hue (for NTSC only)	⋈	More red ↔ more green
Picture definition	Ⓓ	More definition ↔ less definition

Sound adjustment

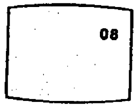
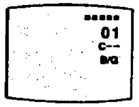
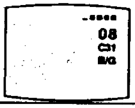
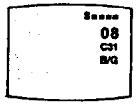
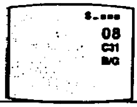
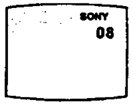
Adjustment	Symbol	Result (+ ↔ –)
Bass	𝄢	More of low frequencies ↔ less of low frequencies
Treble	𝄞	More of high frequencies ↔ less of high frequencies
Speakers balance	⋈	Volume increase from right speaker ↔ Volume increase from left speaker

Reversion to the original adjustment
Press →•←.



Broadcasting station identification

By associating a name with a certain broadcasting station it is possible to avoid having to remember, each time, in which channel number that particular station has been memorized.
Five different characters are available for station identification.

Operation	Result
1 By using PROGR + or –, or the number keys of the remote control unit, select the programme number to be set for identification.	 The programme number to be set for identification appears on the screen.
2 Press ⇨	 The number flashes on the screen.
3 Press ▭	 The first indication line flashes on the screen.
4 Using the ⊞ + or – buttons select a letter of the alphabet, a number, or a blank space.	 Alphabet letters, numbers or a blank space ("-") appear on the screen, in that order.
5 Press ▭	 In this way the first character has been set, and the following position now flashes on the screen.
6 Repeat steps 4 and 5, and fill all five available spaces.	
7 Press ◇.	 All indications under the programme number disappear from the screen. All indications remaining on the screen have been memorized.

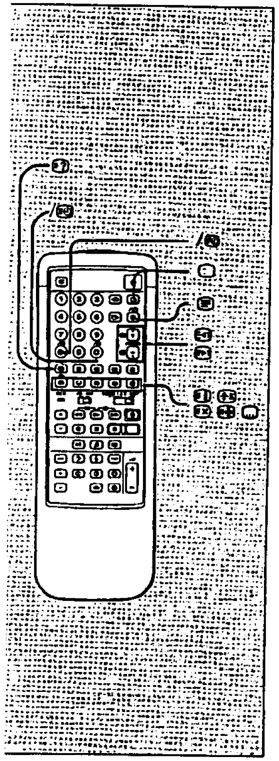
Manual fine tuning

If the picture is not perfect, it is possible to fine tune it manually.

Operation	Result
Press ⊞ + or – repeatedly until the picture is at the optimum.	The indication →F← appears on the screen.
Press ⇨ to start preselection.	The programme number starts flashing on the screen.
Press ◇.	Manual fine tuning has been memorized.

Note: Manual fine tuning will be reset when the channel is selected again.

Use of the teletext service



Through the teletext service a great deal of information can be received at any time. Broadcasting stations make this service available through TV broadcasts. To use the teletext service, use the green keys on the "complete" side of the remote control unit. When the "simple" side of the remote control unit is used, only the basic functions are available.

How to display teletext service

Operation	Result
1 Select the channel you want to watch.	The channel changes on the screen.
2 Press ▣	If there is no teletext signal, the indication "Page 100" appears on the screen.
3 Use the number keys of the remote control unit to insert the three figures corresponding to the desired teletext page. **Note** In case of a mistake, press any three numbers, and then repeat the operation with the correct numbers.	The selected page number appears on the screen. After a few seconds, the selected page appears on the screen.

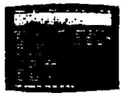
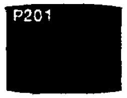
To revert to normal TV programmes:
Press ▭.

To change teletext channel:
First press ▭ to revert to the TV mode, and then repeat procedure steps 1 to 3.

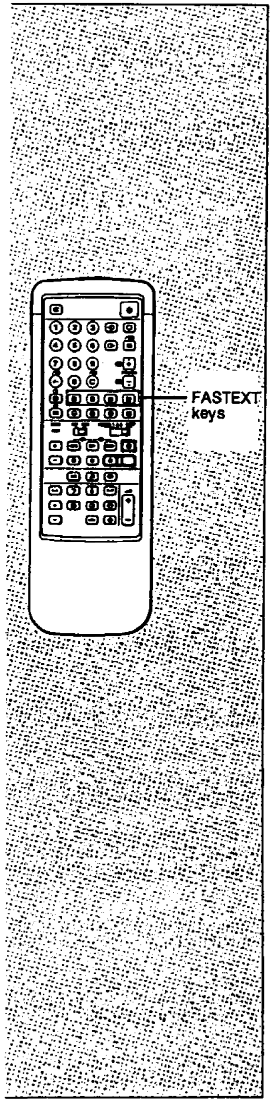
Note: A weak TV signal may cause troubles in the use of teletext.

Use of special teletext functions

Required function	Operation	Result (on the screen)
Page index required.	Press ▣ (INDEX).	Page index appears.
Sub-pages required (page 888).	Press ▭	The sub-page appears (page 888).
Access to previous or following pages.	Press ⊕ (PAGE +) or ⊖ (PAGE –).	The preceding or the following page appears.

Required function	Operation	Result (on the screen)
Superimposition of the teletext on the TV programme.	In the TV mode, press ⊜ twice. To revert to the normal teletext function press ⊜ again.	Teletext information will appear superimposed on the TV programme.
To prevent page changes due to page up-dating.	Press ⊜ (STILL). Press ⊜ (TXT/MIX) to revert to the normal function.	The ⊜ (STILL) symbol appears on the screen.
Magnification of teletext characters.	Press once to magnify the upper half of the screen. Press twice to magnify the lower half of the screen. Pressing the button three times the normal vision is restored.	The upper or the lower half of the page is magnified.
Display of hidden information (answers to quizzes, ecc.).	Press ⊜ (RIV). Press again to hide the answers.	 The information is displayed.
Watching a programme while the teletext searches for the required page.	1. Ask again for the page.	The number is displayed.
	2. Press ⊜	TV programme is displayed.
	3. When the required page has been found, the page number will be displayed.	
	4. Press ⊜ to display the page.	The desired page will be displayed.
Display of a page at a preset time.	1. Request the page.	The selected page will be displayed.
	2. Press ⊜ (MEM.T).	In the lower part of the screen the indication "T****" appears.
	3. Set the required time by using the number keys, and by inputting four figures (e.g. 0730 for "7:30").	The required time is displayed on the screen.
	To watch TV programmes until a preset time Press ⊜ (CANC.). At the required time, the selected page appears in the upper part of the screen. Press ⊜ to display the page. **To cancel the request** Display the teletext page and then press ⊜ (CANC.M.).	

Note: Depending on the teletext service, certain functions may not be available.



Use of the FASTEXT function

The FASTEXT function allows rapid access, at the touch of a single button, to the teletext functions. In the lower part of the screen, a colour coded index will be displayed when a FASTEXT teletext page is broadcasted. Each colour corresponds to the coloured keys on the remote control unit.

Operation

Operation	Result
Press one of the coloured key on the remote control unit corresponding to the coloured indications of the FASTEXT teletext page.	The selected teletext page appears on the screen.

Note
The correct use of the FASTEXT teletext function depends on the signal being broadcast by the TV stations. Some TV stations may not broadcast FASTEXT teletext signal.

Connections and optional functions

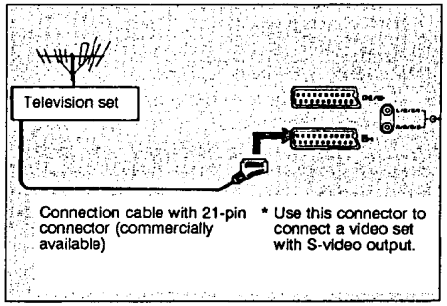
This TV set may be connected to other audio/video machines, such as videocameras, VTRs, videodisc players, or stereo systems.

Connection to an external audio/video system

This TV set incorporates three groups of connectors, for input and output to the TV signal. Each group has the following characteristics.

Connector	Input signal	Output signal
Ꮻ-1	Normal audio/video signal or RGB signal	TV tuner audio/video signal
⊖-2/⊖-	Normal audio/video signal and S-video signal	Audio/video signal from a selectable source
-⊖, ⊖, -⊖ front panel	Normal audio/video signal and S-video signal	No signal

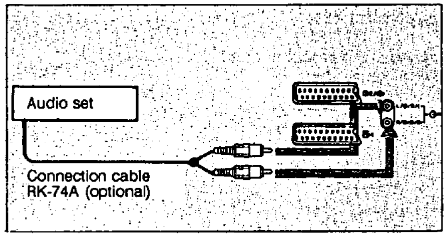
Connection of a TV set



Connection cable with 21-pin connector (commercially available)

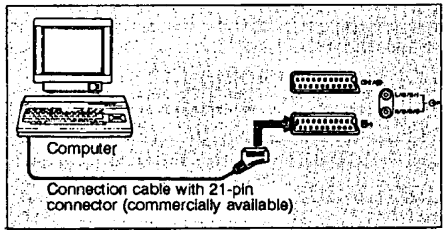
* Use this connector to connect a video set with S-video output.

Connection of an audio unit



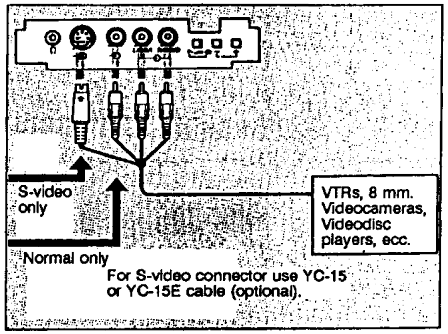
Connection cable RK-74A (optional)

Connection to a computer with RGB output



Connection cable with 21-pin connector (commercially available)

Temporary connection of video apparatus
For a temporary connection (e.g. of a videocamera) use the front panel terminals.

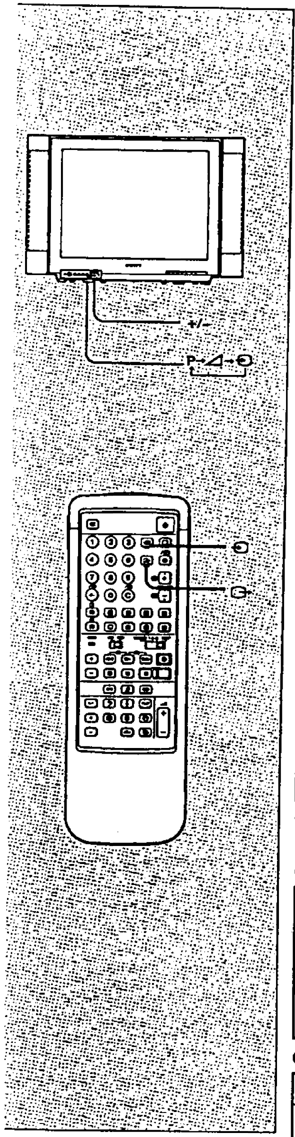


For S-video connector use YC-15 or YC-15E cable (optional).

Connection of a video taperecorder through the ⊤ connector
Connect the antenna input (AERIAL-IN) of the TV set to the antenna output (AERIAL-OUT) of the video taperecorder.

S-video input (Y/C input)
The video signal is formed by two separate signals: the luminance (Y) and the chrominance (C). Through the separation of the two signals it is possible to improve picture quality (luminance in particular), preventing reciprocal interferences. This TV set features two S-video sockets able to directly receive this type of signal.

Pictures with distortion
Move the TV set away from the video taperecorder if pictures or sound become distorted.



Video programme playback

Using the input selector, pictures coming from a video taperecorder connected to the TV sets input, may be played back.

Operation

Operation	Result
Select the desired video input by pressing ⊖ repeatedly.	-⊖1 The symbol of the selected input appears on the screen (see table hereunder).
Press ▢ button to revert to TV mode.	

Selectable inputs

Symbol	Selected input
⊖1	Audio/video signal from Ꮻ-1 connector.
Ꮻ	RGB signal from Ꮻ-1 connector.
⊖2	Audio/video signal from ⊖-2/⊖- connector.
-⊖2	S-video signal (from a VTR with S-video output) from ⊖-2/⊖- connector.
⊖3	Audio/video signal from ⊖, -⊖connector located on the front panel.
-⊖3	S-video singal from S-video -⊖ (4 pin) connector located on the front panel.

Input can be selected also with P→◿→⊖ buttons of the TV set.

In this case, first select ⊖, and then press the + /– buttons to select the desired input.

Selection of video output from a ⊖-2/⊖- connector

The ⊖-2/⊖- connector may output 4 video signals. Select the outgoing video signal in the following way.

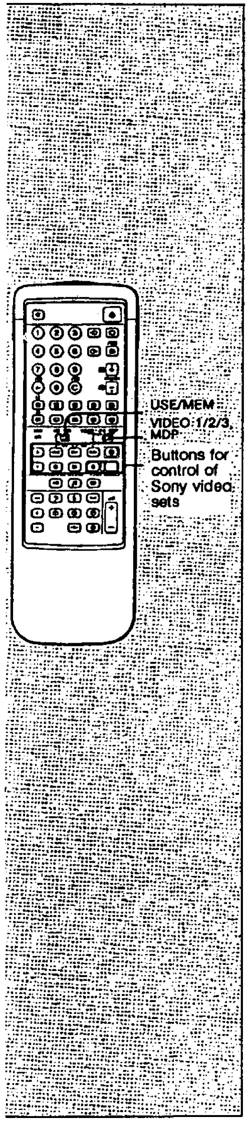
Operation

Operation	Result
Press ⊖- repeatedly to select the desired video input.	1⊖- The selected video input symbol appears on the screen (see the table following).

Output signal

Symbol	Selected output
1⊖-	Audio/video signal from Ꮻ-1 connector.
2⊖-	Audio/video signal from ⊖-2/⊖- connector.
3⊖-	Audio/video signal from ⊖ and -⊖ connectors.
TV⊖-	Audio/video signal from T-type antenna connector ⊤.

Use of the programmable remote control unit



This section explains the use of the remote control unit (supplied) for other audio/video apparatus.
The supplied remote control unit allows you to control Sony video units from a distance. The same remote control unit may be programmed to execute the same function also with other makers set.

Remote control on Sony video sets, without programming the supplied remote control unit

Through the VIDEO 1/2/3, MDP selector button, video apparatus made by Sony (such as Betamax VTRs, 8 mm. VTRs, VHS VTRs and videodisc players) may be controlled from a distance.

1 Select position USE

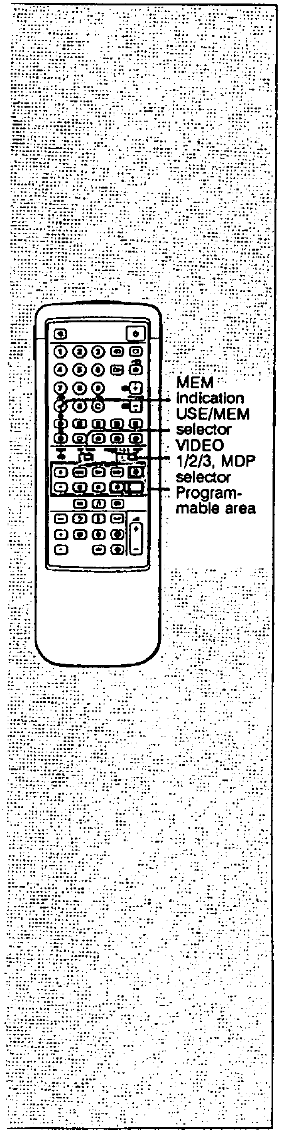
2 With the VIDEO 1/2/3MDP selector button select the position corresponding to the Sony set you wish to control.
Positions are as follows:
VIDEO 1: Sony Betamax, or Betamax ED VTRs
VIDEO 2: Sony 8 mm. VTRs
VIDEO 3: Sony VHS VTRs
MDP: Sony videodisc players

VIDEO 1-2-3 MDP

3 For remote control of video sets use buttons shown in the illustration.

Note:
When the ● button is used, remember that this button has to be pressed together with the button on the right.

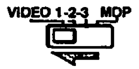
Note
- If the VTR is being used has a COMMAND MODE selector, it is necessary to select, with this selector, the same position of the VIDEO 1/2/3, MDP selector of the supplied remote control unit.
- Buttons of the remote control unit correspond to functions not available on the VTR, cannot be activated.



Storing signals of other remote control units

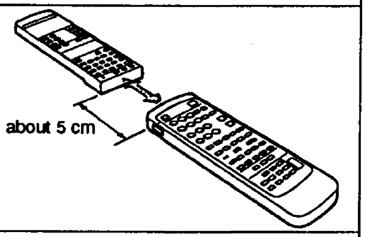
Buttons shown in the following illustration may memorize the corresponding functions of other remote control unit.
Up to four functions may be memorized, by associating them with the VIDEO 1/2/3, MDP selector button, to only one button of the remote control unit supplied with the TV set.

1 Select the desired position with the VIDEO 1/2/3, MDP selector button.



2 Select the position MEM with the mode selector.

3 Put the remote control unit of the other set in front of the supplied remote control unit.



4 On the supplied remote control unit press the button corresponding to the function which has to be memorized.
The MEM indication lights up.

Note
When the ● button is used, be sure to press it simultaneously with the button on the right side.

5 Press on the remote control unit the button corresponding to the function which has to be memorized. At the end of the memorization process the MEM indication goes off.

6 To memorize other functions repeat steps 3 to 5 of this procedure.

7 At the end of the procedure, select position USE for the supplied remote control unit.

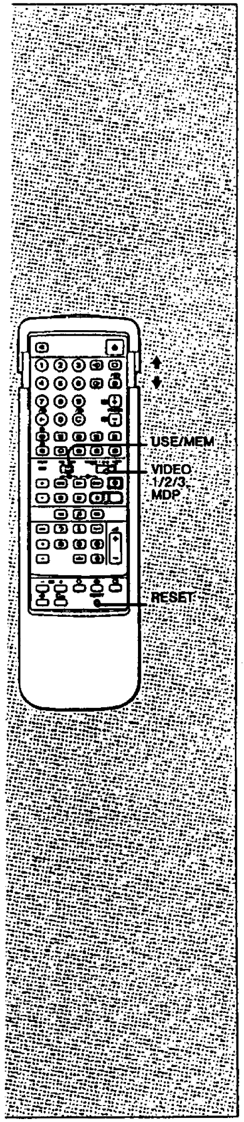
For efficient operation the two remote control units shall be positioned in the following way:
- one in front of the other,
- at an approximate distance of about 5 cm
- completely still during the memorizing operation.

After programming
Check that the video set exactly follows the memorized commands.

In case of incomplete memorization
The MEM indicator will flash. Repeat the procedure starting from step 3.

Insertion of a new command in an already memorized button
The previously memorized function will be replaced automatically.

Note on programming
Functions of non-Sony remote control units can be memorized only if these units make use of infrared signals. It may happen that certain particular functions of non-Sony remote control units cannot be memorized.



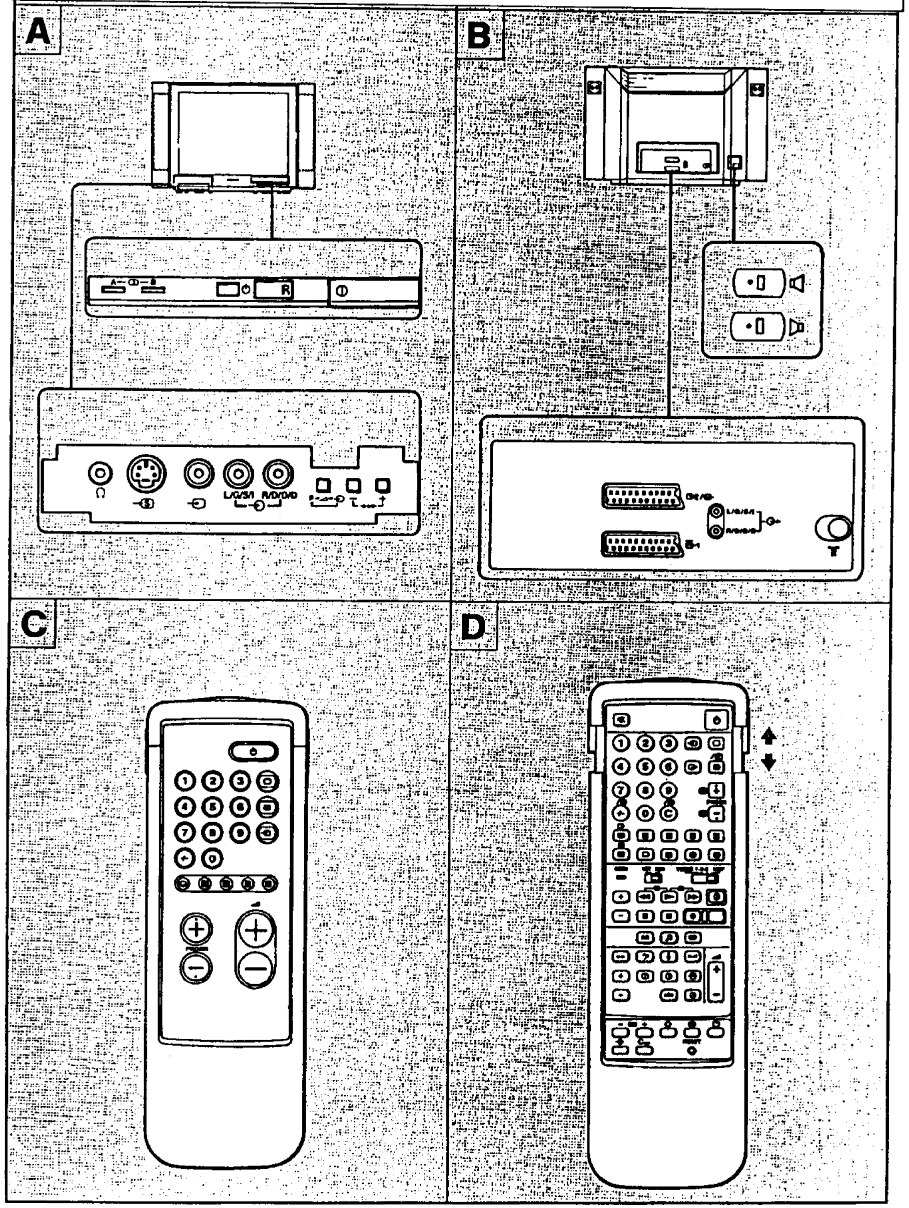
Cancel of programmed functions

1	With the VIDEO 1/2/3, MDP selector, select the position corresponding to the functions that have to be cancelled.	VIDEO 1-2-3 MDP
2	Select MEM position on the mode selector.	USE MEM
3	Press the RESET button with the point of a pen, or similar.	RESET
4	Once the cancel process has been performed, select the USE position on the mode selector.	USE MEM

Note
- Instructions memorized in one single button cannot be cancelled.
- After the programmed functions have been cancelled, functions for controlling Sony video apparatus are still available.

General information

Components identification



This section briefly describes controls of the TV set and the remote control unit, and thier relevant functions.
For further details see the page shown on the right side of each description.

A	TV set front panel
Indication	**Description**
⏼	Power switch
⏻	Stand-by switch
A-◯-B	Bilingual function indications
🎧	Headphones connector (stereo mini-jack)
-⊖ ⊖ -⊖	Input connectors (S-video/video/audio)
P→◿→⊖	Function selector (programme/volume/input)
- ● +	Function adjustment keys

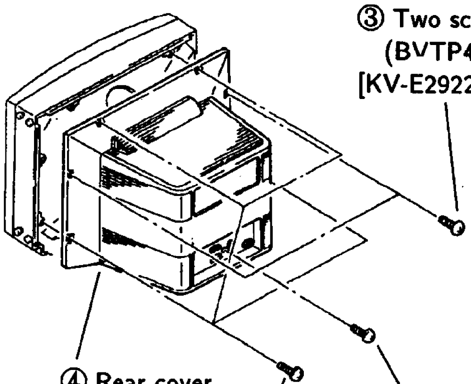
B	TV set rear panel
Indication	**Description**
◁ ▷	Speaker connectors (upper: left speaker; lower: right speaker)
⊖→2/⊖-	Connector 2, Euro AV (SCART, 21-pin). S-video in/video in/TV/video out signals.
⊖-	Connector 1, Euro AV (SCART, 21-pin). RGB in/video in/TV/out signals.
⊖→	Audio output connectors (RCA pin)
╥	Antenna connector (of IEC standard)

C	Remote contro unit — simplified side
Indication	**Description**
⊖	Input selector
⊜	Teletext service key
▢	TV set power switch and TV mode selector
⏻	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
-/--	Channel selection key/ 2-figure programmes
◿ +/-	Volume adjustment key
PROGR +/-	Programme selection key

D	Remote control unit — complete side
Indication	**Description**
🔇	Sound muting key
⏻	Standby key
1,2,3,4,5,6,7,8,9,0	Number keys
⊖	Input selector
▢	TV set power switch and TV mode selector
⊖	Output selector
⊜	Teletext key
♫	Music programme key
A/B	Bilingual programmes language selection
-/--	Channel selection key/ 2-figure programmes
C	Channel direct selection key
⊕	Special sound effect key
◎	Time display
▣ ▣ ▣ ▣ ▣ ▣ ▣ ▣	Teletext operation keys
⊖	Display key
→•←	Reset key
◿ +/-	Volume adjustment keys
PROGR +/-	Programme selection keys
◐ ◑ ☼ ◕ ◿ + -	Image and audio adjustment keys
MEM	MEM light indication
USE/MEM	Normal/programme mode selector
VIDEO 1/2/3, MDP	Video unit selector
◀◀ ▶ ▶▶ ■ ❚❚ ●	Video units function key
Coo	Programme cancelling key
⇨	Channel presetting key
+ ⊞ -	Channel tuning keys
◇	Channel storing keys
▢	Broadcasting stations identification key
RESET	Cancel key

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL



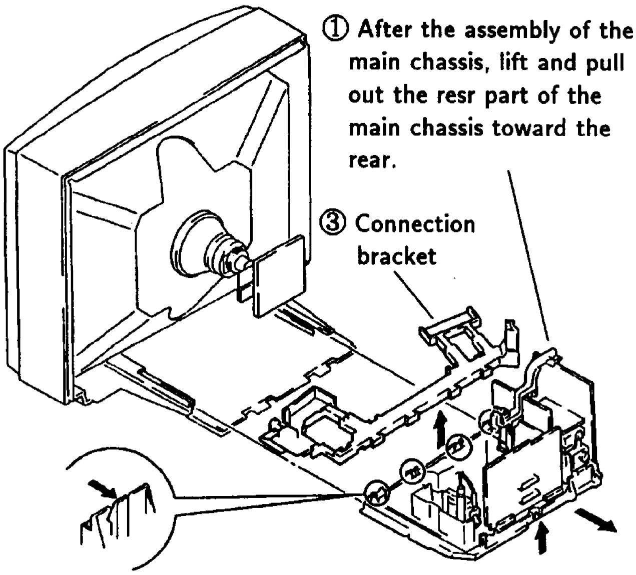
③ Two screws
(BVTP4x16)
[KV-E2922U only]

④ Rear cover

① One screw
(BVTP4x16)

② Four screws
(BVTP4x16)

2-2. CHASSIS ASSEMBLY REMOVAL

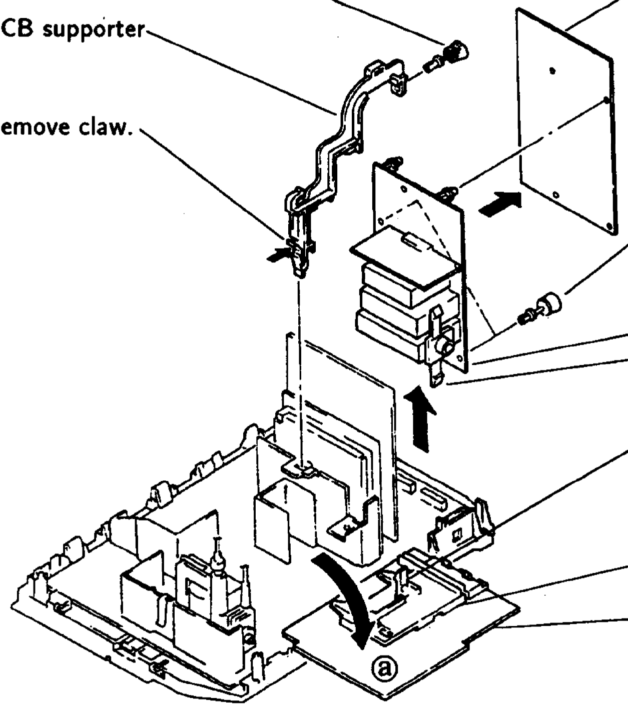


① After the assembly of the main chassis, lift and pull out the resr part of the main chassis toward the rear.

③ Connection bracket

② Push the four claws of the main chassis in the direction of the arrow and remove the comecting bracket upwards.

2-3. A AND J1 BOARDS REMOVAL



④ Remove the T type rivet.

⑥ PCB supporter

⑤ Remove claw.

③ A1 board

⑦ Remove the two T type rivets.

⑨ A board

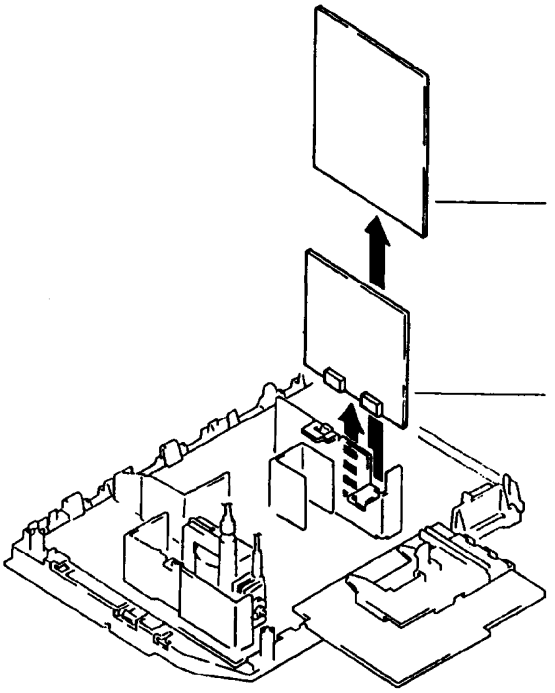
⑧ Remove the claw.

① Remove the claw.

J bracket

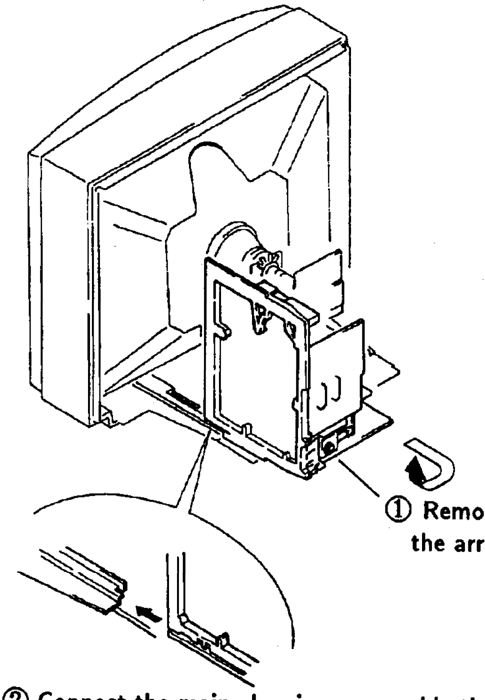
② Open the J1 board in the direction of the arrow ⓐ.

2-4. B1 AND V BOARDS REMOVAL



2-5. SERVICE POSITION

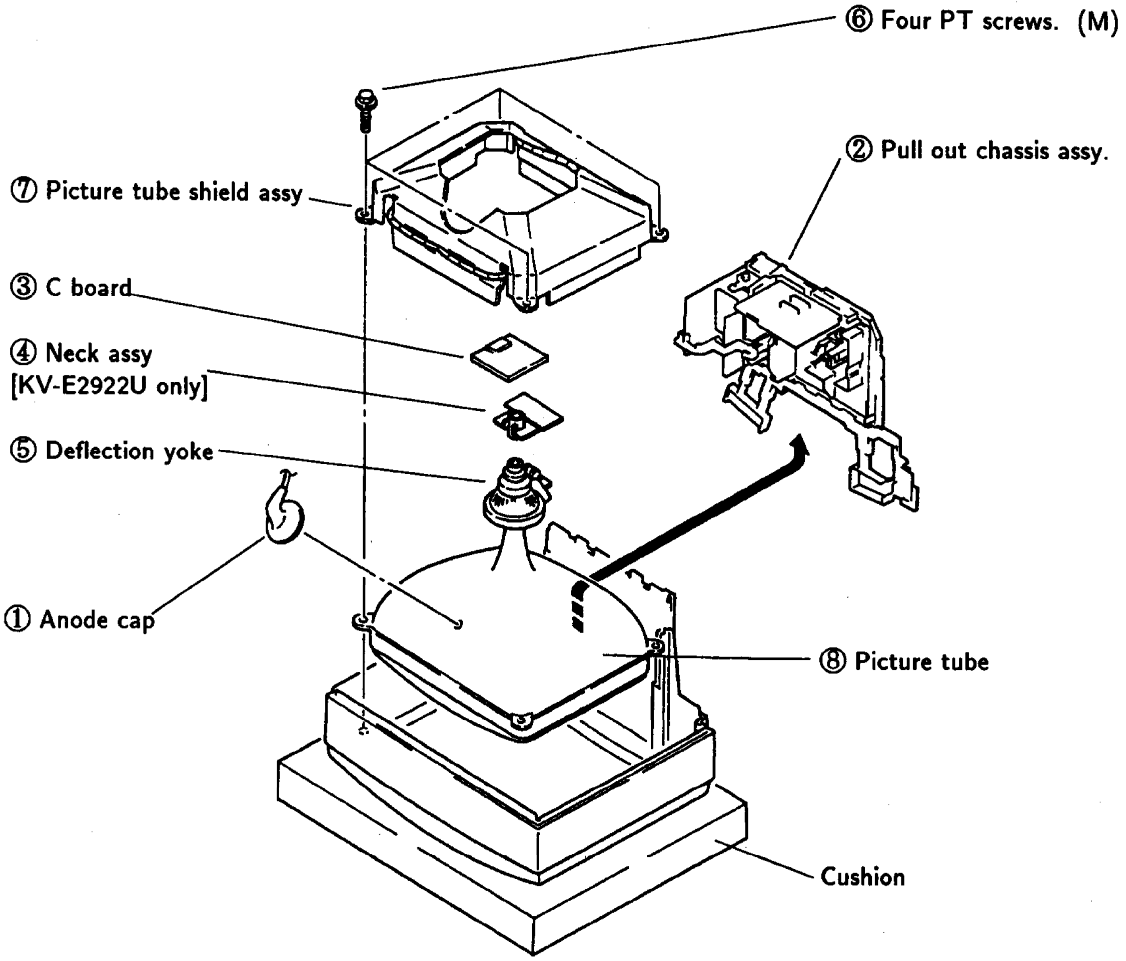
* Remove the connector bracket from the main chassis assembly and then perform the following servicing.
(Refer to 2-2. CHASSIS ASSEMBLY REMOVAL.)



① Remove main chassis assembly in the direction of the arrow.

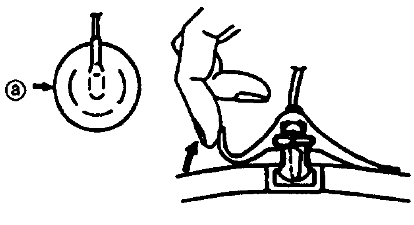
② Connect the main chassis on assembly the holder.

2-6. PICTURE TUBE REMOVAL

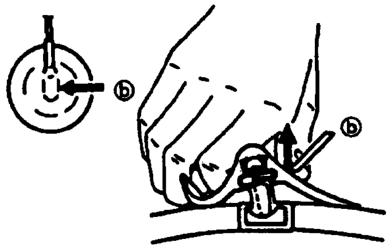

⑥ Four PT screws. (M)
② Pull out chassis assy.
⑦ Picture tube shield assy
③ C board
④ Neck assy
[KV-E2922U only]
⑤ Deflection yoke
① Anode cap
⑧ Picture tube
Cushion

• REMOVAL OF ANODE-CAP

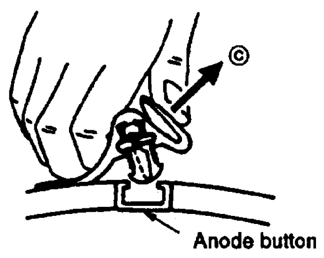
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
Anode button

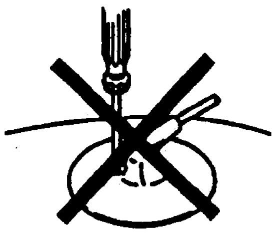
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

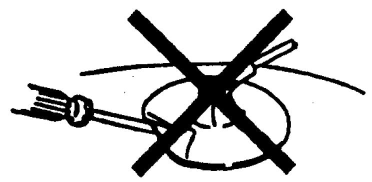
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECITON 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :

◑ Contrast ·········80%
(or remote control normal)
☼ Brightness ·········50%

- Carry out the following adjustments in this order:
  1. Beam landing
  2. Convergence
  3. Focus
  4. White balance

Note : Testing equipment required
1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations :

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast
   Bightness } normal
2. Position neck ass'y as shown in Fig 3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side.
   (See Figures 3-1 through 3-3.)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Figure 3-1.)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it.
   (See Figure 3-4.)

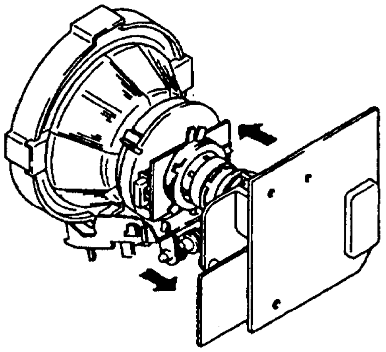
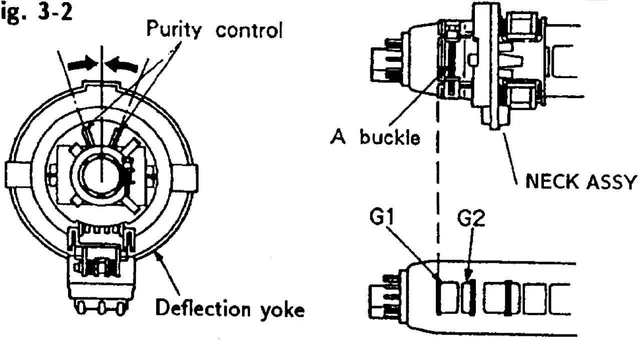


Fig. 3-1

Fig. 3-2


Purity control
A buckle
NECK ASSY
G1
G2
Deflection yoke

(29 inch only)

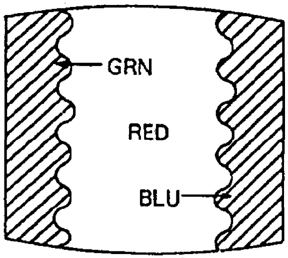


Fig. 3-3

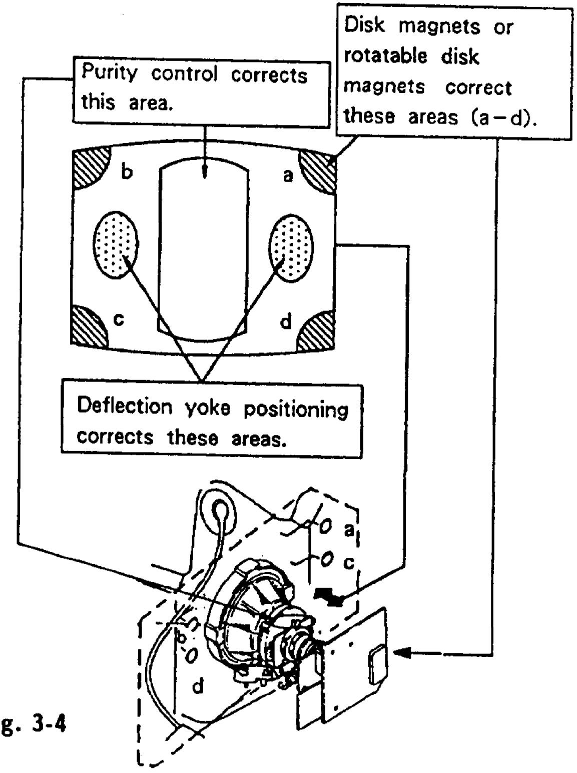

Disk magnets or rotatable disk magnets correct these areas (a−d).
Purity control corrects this area.
b
a
c
d
Deflection yoke positioning corrects these areas.
a
c
b
d

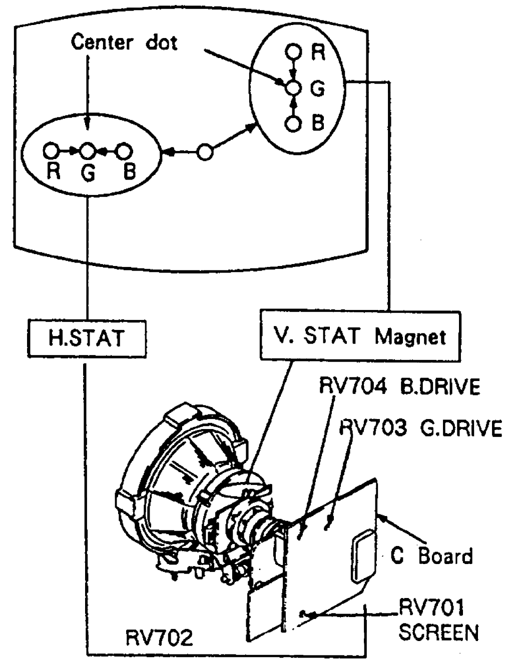
Fig. 3-4

3-2. CONVERGENCE

Preparations :

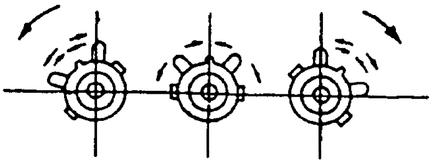
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence



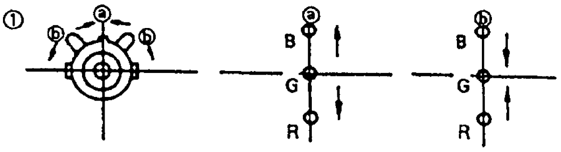
1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

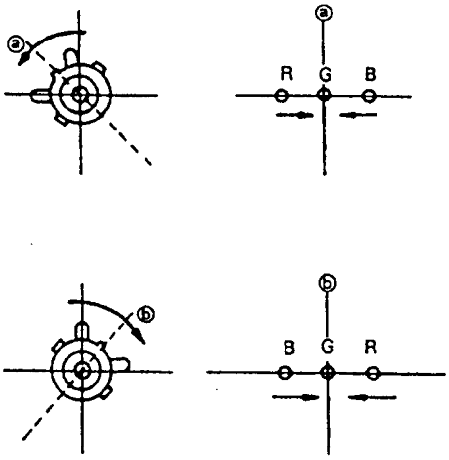


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.

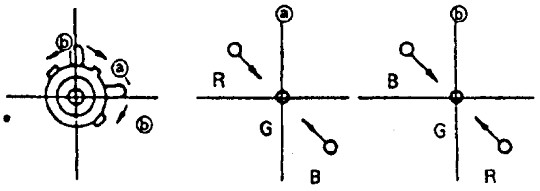
①



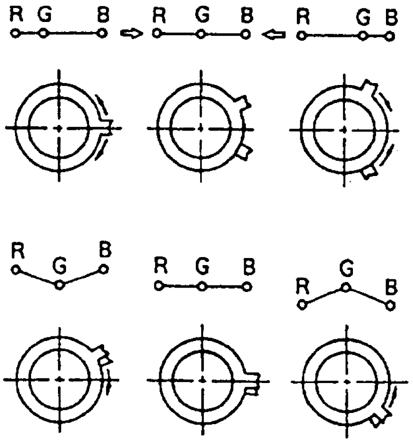
②

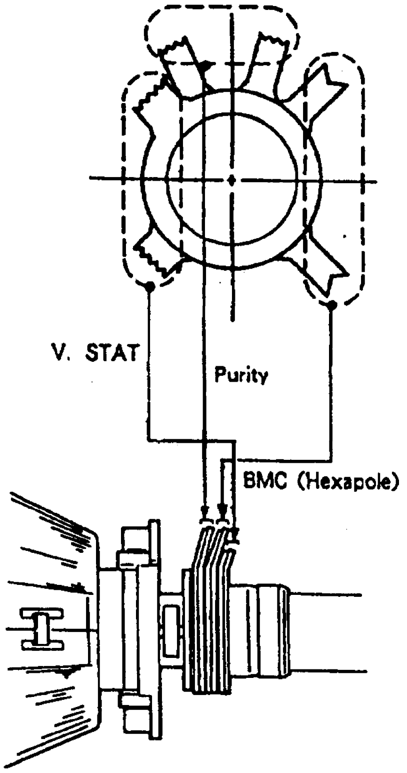


③



- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B


V. STAT
Purity
BMC (Hexapole)

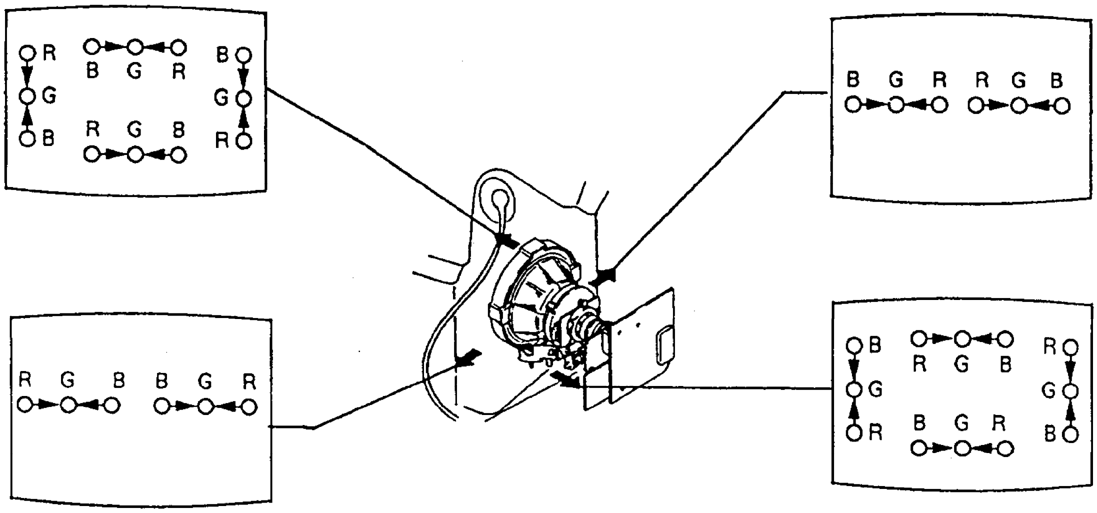
- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

(2) Dynamic convergence adjustment

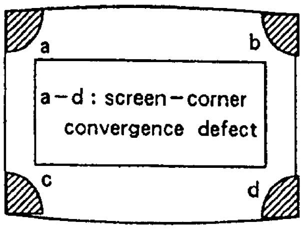
Preparations :

Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

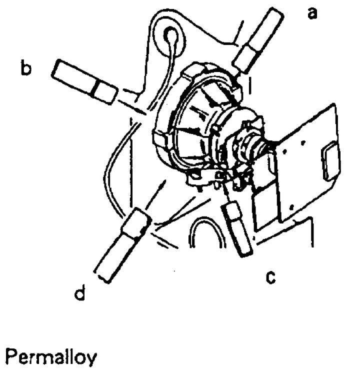
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the defelection yoke spacer.


R
G
B
B G R
R G B
B
G
R
B G R R G B
R G B B G R
B
G
R
R G B
B G R
R
G
B

(3) Screen corner convergence

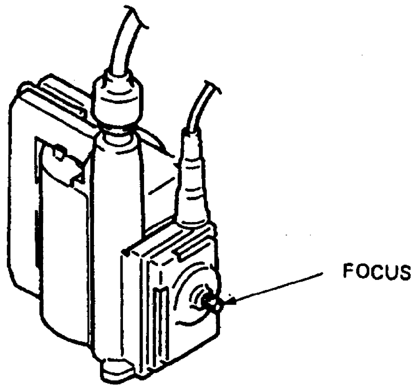


Install the permalloy assembly for the section with faulty.



3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

[Screen G2 setting]

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 170V DC to the R, G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

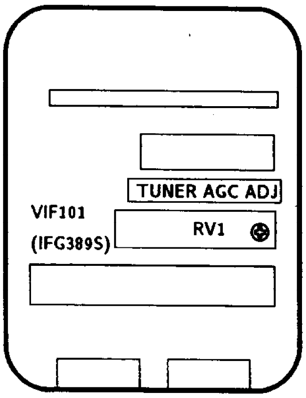
[White balance adjustment]

1. Input an all-white signal from the pattern generator.
2. Set the picture brightness and color controls to their normal levels.
3. Use the RV704 (B Drive) and RV703 (G Drive) to adjust white balance.

In the adjustments below, have the picture color and brightness settings at their normal levels unless there is a specific instruction to the contrary.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. A BOARD ADJUSTMENT

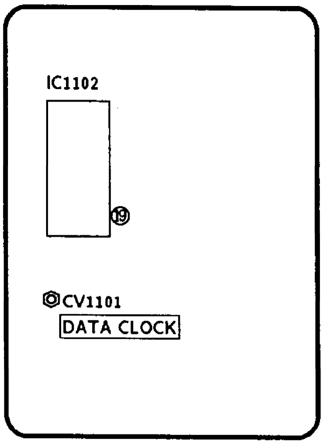

TUNER AGC ADJ
VIF101
(IFG389S)
RV1

A BOARD (COMPONENT SIDE)

TUNER AGC ADJUSTMENT (VIF101, RV1)

1. Align with an appropriate signal between stations.
2. Adjust RV1 so that snow noise and cross modulation just disappear from the picture.

4-2. A1 BOARD ADJUSTMENT

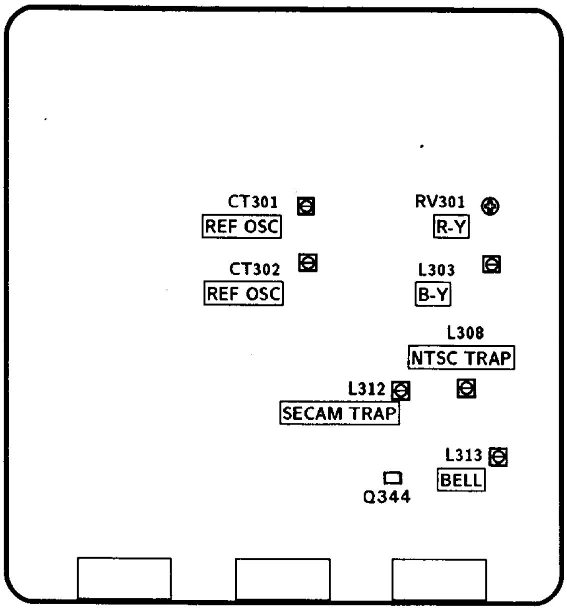

IC1102
⑲
CV1101
DATA CLOCK

A1 BOARD (COMPONENT SIDE)

DATA CLOCK Adjustment (CV1101)

1. Tune in a no signal.
2. Connect a frequency counter to pin ⑲ of IC1102 (PCLK) through a probe of 10:1.
3. Adjust CV1101 (DATA CLOCK) so that frequency becomes 728.022KHz ± 1Hz.

4-3. B1 BOARD ADJUSTMENTS


CT301
REF OSC
RV301
R-Y
CT302
REF OSC
L303
B-Y
L308
NTSC TRAP
L312
SECAM TRAP
L313
BELL
Q344

B1 BOARD (COMPONENT SIDE)

REFERENCE OSCILLATOR ADJUSTMENT (CT302 8.8MHz)

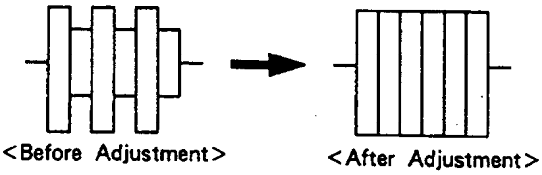
1. Input a PAL color bar signal.
2. Ground pin ⑰ of the IC304.
3. Adjust CT302 to obtain synchronization.

REFERENCE OSCILLATOR ADJUSTMENT (CT301 7.16MHz)

1. Input an NTSC color bar signal.
2. Ground pin ⑰ of IC304.
3. Adjust the CT301 to obtain synchronization.
4. Remove the jumper grounding pin ⑰ of IC304.

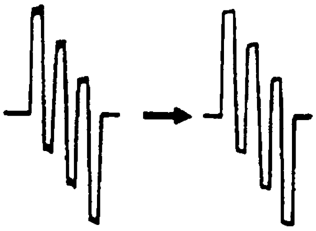
BELL FILTER ADJUSTMENT (L313)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to the emitter of Q344.
3. Adjust L313 so that the waveform is flat.



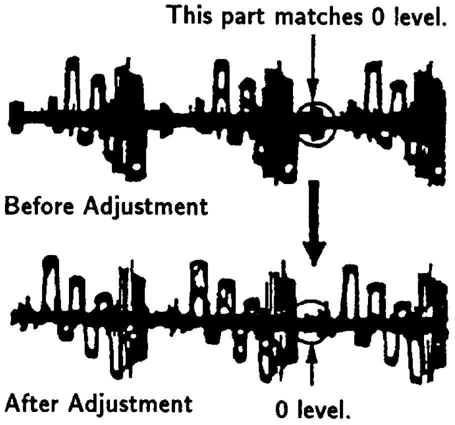
1H DELAY LINE ADJUSTMENT (L303, RV301)

1. Input a PAL color bar signal.
2. Connect the oscilloscope to pin ③ (B-Y) of IC304 and observe the waveform of the H block on the oscilloscope.
3. Adjust L303 to minimize the double waveform outline.



Before Adjustment After Adjustment

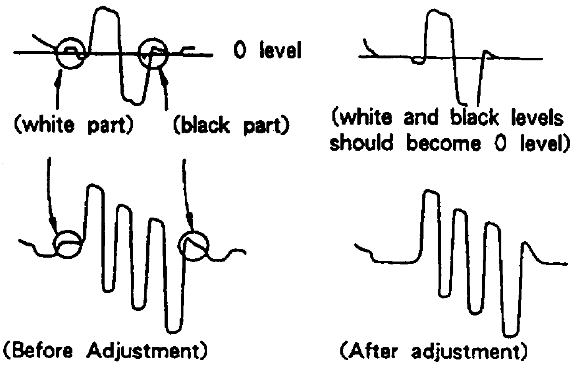
4. Input a PAL test color bar signal.
5. Rotate the RV301 and adjust till the ANTI-PAL part of the waveform matches the 0 level.


This part matches 0 level.
Before Adjustment
After Adjustment
0 level.

6. L303 and RV301 affect each other, Repeat till the conditions of both met.

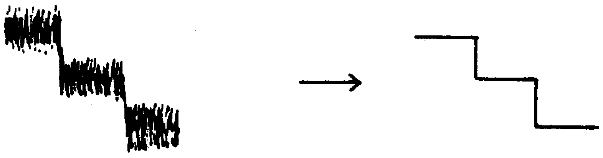
DISCRIMINATION ADJUSTMENT (RV301 and L303)

1. Input a SECAM color bar signal.
2. Connect the oscilloscope to pin ① of IC304.
3. Adjust RV301 until the white and black sections of the waveform at pin ① are at the 0 level.
4. Connect the oscilloscope to pin ③ of IC304.
5. Adjust L303 until the white and black sections of the waveform at pin ③ are at the 0 level.


0 level
(white part)
(black part)
(white and black levels should become 0 level)
(Before Adjustment)
(After adjustment)

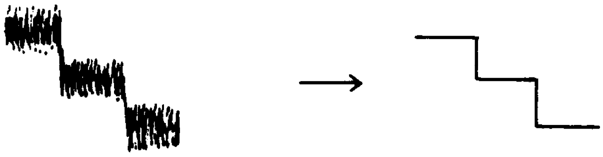
SECAM TRAP (L312)

1. Input a SECAM color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L312 to minimize color carrier on the Y-signal.

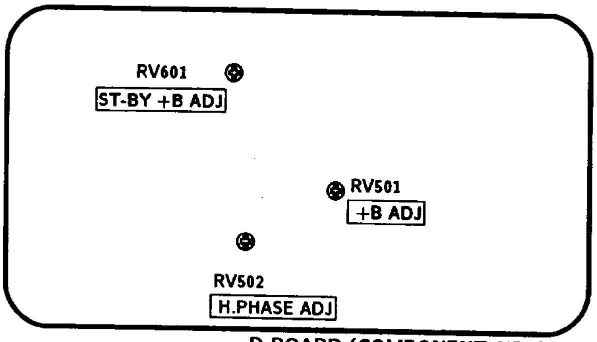


NTSC TRAP (L308)

1. Input a NTSC (3.58) color bar signal.
2. Connect oscilloscope to Q340 emitter and adjust L308 to minimize color carrier on the Y-signal.



4-4. D BOARD ADJUSTMENTS


RV601
ST-BY +B ADJ
RV501
+B ADJ
RV502
H.PHASE ADJ

D BOARD (COMPONENT SIDE)

+B ADJUSTMENT (RV501)

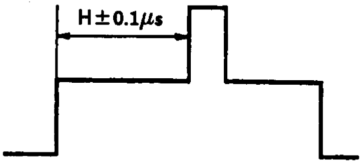
1. Connect the digital multimeter to TP91.
2. Adjust RV501 to obtain 135±0.2V.

ST-BY +B ADJUSTMENT (RV601)

1. Put the system into ⏻ standby mode (remote commander).
2. Connect the digital multimeter to TP91.
3. Adjust RV601 to obtain 135±3V.
4. Take the system out of ⏻ standby mode (remote commander).

H.PHASE ADJUSTMENT (RV502)

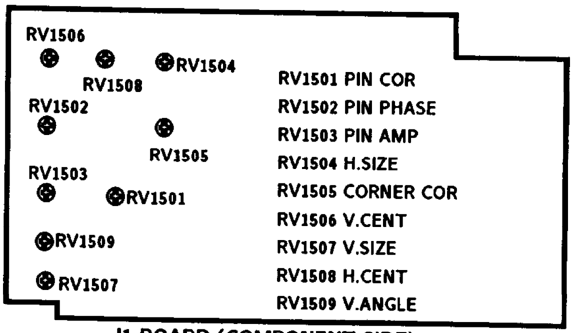
1. Input a PAL color bar signal.
2. Set the picture and brightness controls to their normal levels.
3. Set RV1508 (H.CENT) to its mechanical center.
4. Connect the oscilloscope to pin ⑪ (SCP) of IC 501.
5. Rotate RV502 to adjust to H±0.1μs.



Standard of H. PHASE

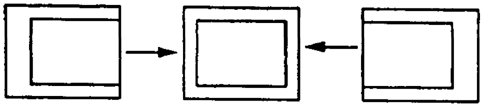
Model Size	H
25″	5.1μs
29″	5.5μs

4-5. J1 BOARD ADJUSTMENTS

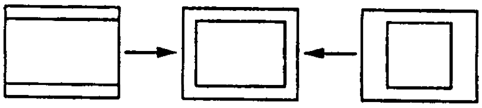

RV1506
RV1504
RV1508
RV1502
RV1505
RV1503
RV1501
RV1509
RV1507
RV1501 PIN COR
RV1502 PIN PHASE
RV1503 PIN AMP
RV1504 H.SIZE
RV1505 CORNER COR
RV1506 V.CENT
RV1507 V.SIZE
RV1508 H.CENT
RV1509 V.ANGLE

J1 BOARD (COMPONENT SIDE)

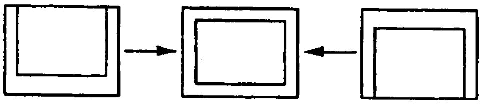
RV1508
H. CENT (HORIZONTAL CENTER)



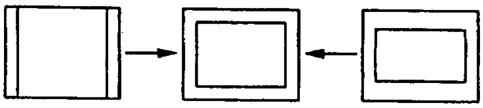
RV1504
H. SIZE (HORIZONTAL SIZE)



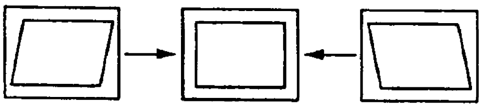
RV1506
V. CENT (VERTICAL CENTER)



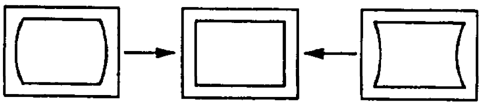
RV1507
V. SIZE (VERTICAL SIZE)



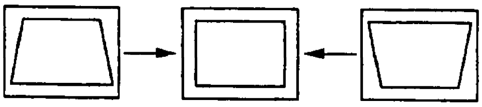
RV1509
V. ANGLE (VERTICAL ANGLE)



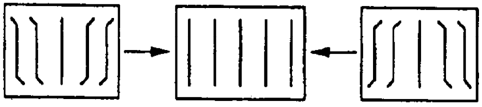
RV1503
PIN AMP (PINCUSHION AMPLIFIER)



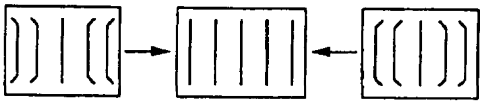
RV1502
PIN PHASE (PINCUSHION PHASE)



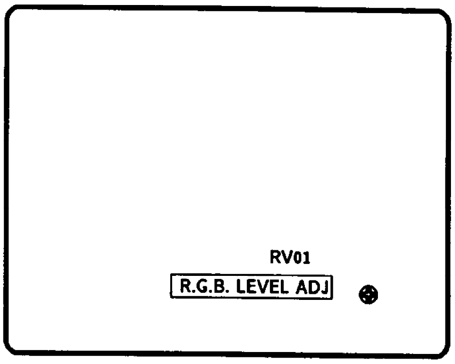
RV1501
PIN. COR (PINCUSHION CORRECT)



RV1505
CORNER COR (CORNER CORRECT)



4-6. V BOARD ADJUSTMENTS



V BOARD (COMPONENT SIDE)

RGB LEVEL ADJUSTMENT (RV01)

1. Maximize the picture setting.
2. Adjust RV01 so that the RGB output is 0.75V.

4-7. SECONDARY ADJUSTMENTS

SUB BRIGHTNESS ADJUSTMENT

1. Set the system to receive a test pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
3. Switch off the power.
4. While depressing the adjusting buttons + and − simultaneusly, turn on the power. (SUB mode is obtained)
5. Minimize the ◑ contrast setting.
6. Adjust the ☼ brightness control so that the gray scale 0 IRE section is cut off completely and the 20 IRE section is barely glowing.
7. Depress the ◇ (store) button of the remote commander.
   (SUB mode is released)

   If there is no test color pattern

1. Set the system to receive a color pattern.
2. Press → • ← on the remote commander to put the system into normal mode.
   Set the ⊛ color to its normal state.

3-5. Steps are the same as above.

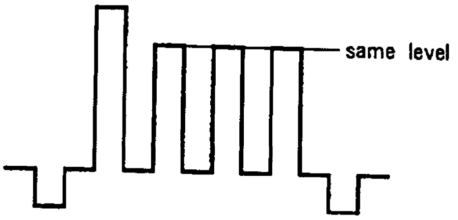
6. Since 20 IRE is nearly blue, adjust the ☼ brightness control so that the blue barely glows.

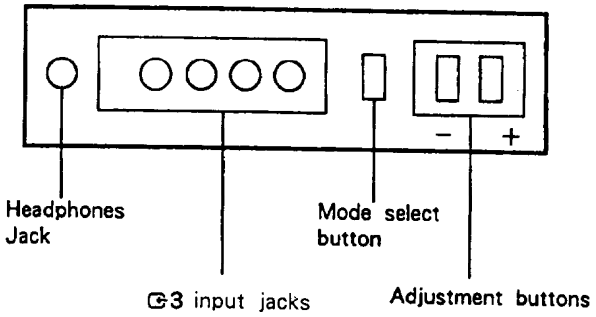
7. Same as step 7 above.

8. Press → • ← on the remote commander to put the system into normal mode.

SUB COLOR ADJUSTMENT

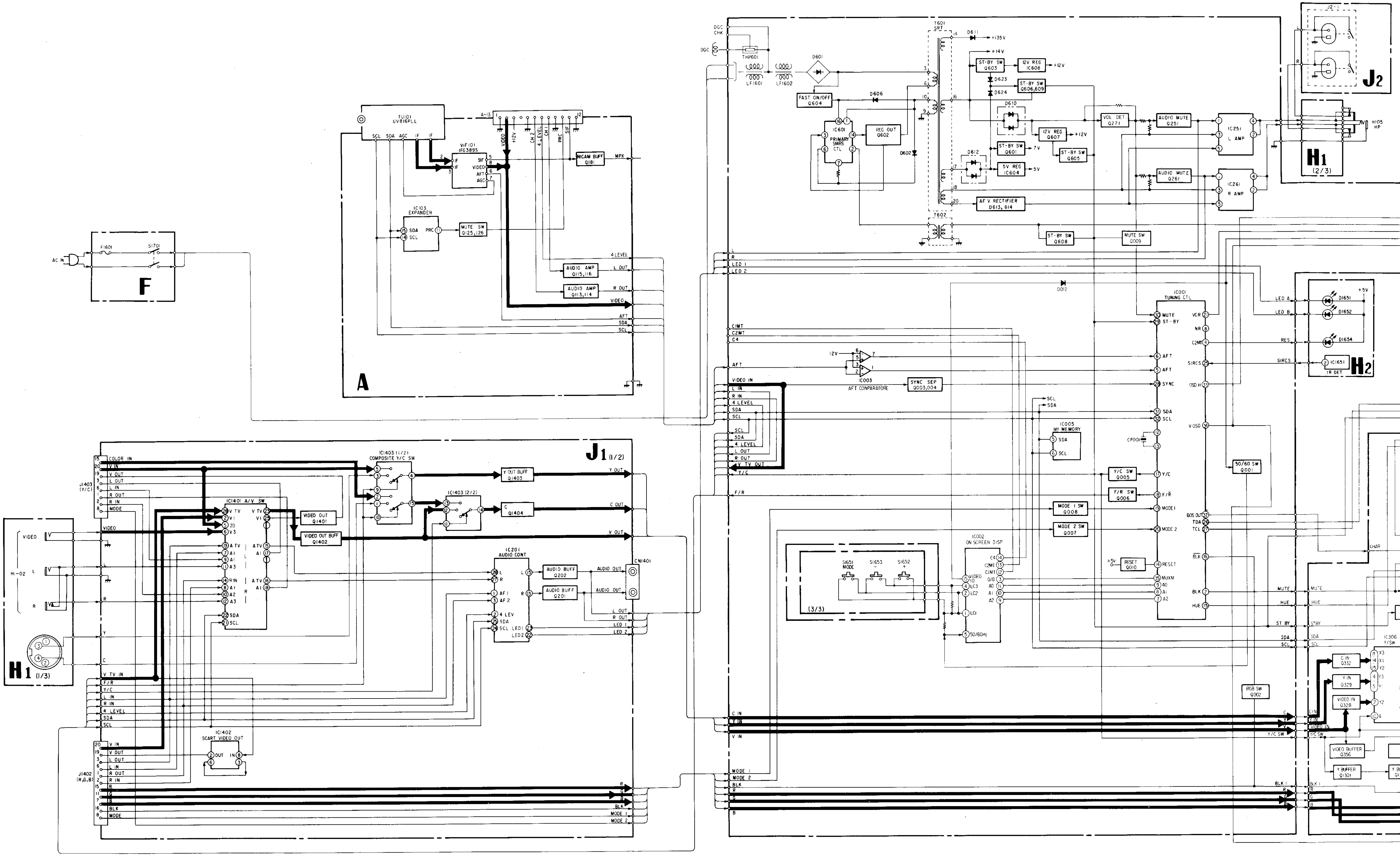
1. Set the system to receive color bars.
2. Press →•← on the remote commander to put the system into normal mode.
3. Cut off the power.
4. While depressing the adjustment buttons + and − simultaneusly, turn on the power. (SUB mode is obtained).
5. Adjust the color control so that the B out waveform (pin ⑤ of C board connector CNC72) is as shown in the figure below.
6. Depress the ◇ (store) button of the remote commander. (SUB mode is released)



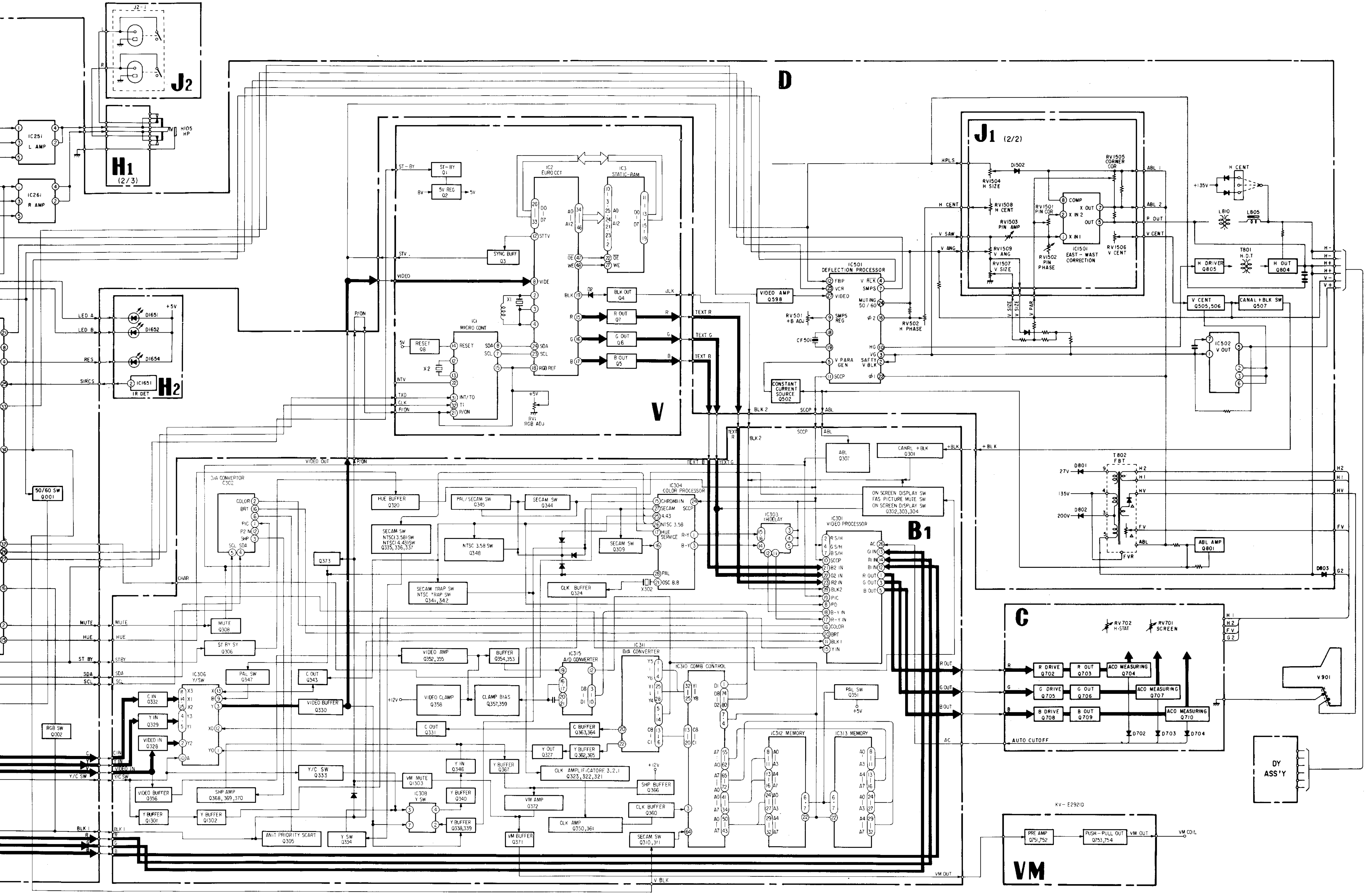

−
+
Headphones Jack
Mode select button
⊖3 input jacks
Adjustment buttons

SECTION 5
DIAGRAMS

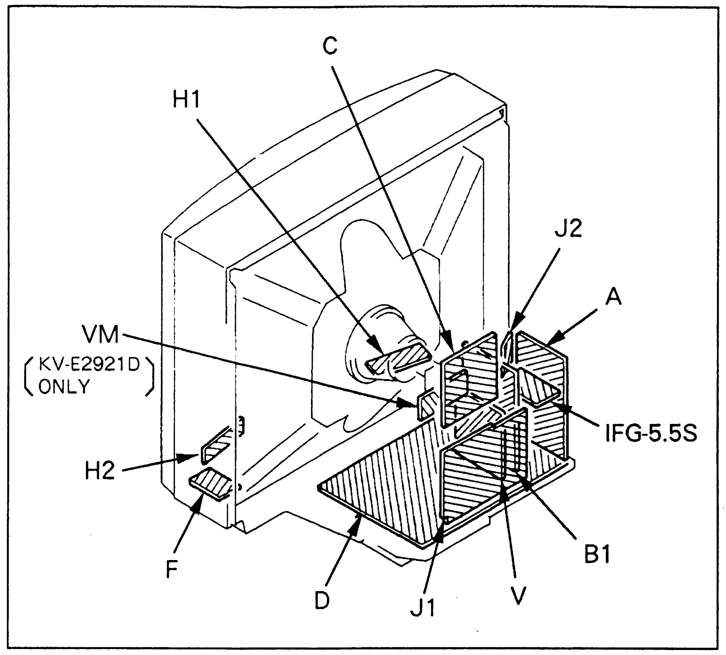
5-1. BLOCK DIAGRAM (1)



F
AC IN
F1601
S1701
A
TU101 UV816PLL
SCL SDA AGC IF IF
VIF101 IFG389S
IC103 EXPANDER
MUTE SW Q125,126
NICAM BUFF Q181
MPX
AUDIO AMP Q115,116
AUDIO AMP Q113,114
4 LEVEL
L OUT
R OUT
VIDEO
AFT
SDA
SCL
J1 (1/2)
J1403 (Y/C)
J1402 (R,G,B)
COLOR IN
V IN
V OUT
L OUT
L IN
R OUT
R IN
MODE
IC1403 (1/2) COMPOSITE Y/C SW
IC1403 (2/2)
IC1401 A/V SW
VIDEO OUT Q1401
VIDEO OUT BUFF Q1402
Y OUT BUFF Q1403
C Q1404
Y OUT
C OUT
V OUT
IC201 AUDIO CONT
AUDIO BUFF Q202
AUDIO BUFF Q201
AUDIO OUT
CN1401
IC1402 SCART VIDEO OUT
H1 (1/3)
H1-02
VIDEO
L
R
Y
C
V TV IN
F/R
Y/C
BLK
MODE 1
MODE 2
DGC
DGC CHK
THP601
LF1601
LF1602
D601
FAST ON/OFF Q604
IC601 PRIMARY SMRS CTL
REG OUT Q602
D602
D606
T601 SRT
T602
D611
+135V
+14V
ST-BY SW Q603
12V REG IC606
+12V
D623
D624
ST-BY SW Q606,609
D610
12V REG Q607
ST-BY SW Q601
7V
ST-BY SW Q605
D612
5V REG IC604
5V
AF V RECTIFIER D613, 614
ST-BY SW Q608
MUTE SW Q009
VOL DET Q271
AUDIO MUTE Q251
AUDIO MUTE Q261
IC251 L AMP
IC261 R AMP
J2
J2-1
H1 (2/3)
H105 HP
LED 1
LED 2
C1MT
C2MT
C4
IC003 AFT COMPARATORE
SYNC SEP Q003,004
VIDEO IN
L IN
R IN
4 LEVEL
V TV OUT
IC005 MY MEMORY
CF001
IC001 TUNING CTL
MUTE
ST-BY
AFT
SYNC
VCR
NR
C2MT
SIRCS
OSD H
V OSD
BOS OUT
TDA
TCL
RESET
RESET Q010
Y/C SW Q005
F/R SW Q006
MODE 1 SW Q008
MODE 2 SW Q007
50/60 SW Q001
D012
IC002 ON SCREEN DISP
S1651 MODE
S1653 -
S1652 +
(3/3)
50/60Hz
H2
D1651
D1652
D1654
IC1651 IR DET
LED A
LED B
RES
SIRCS
+5V
CHAR
HUE
ST BY
RGB SW Q002
IC306 Y/SW
C IN Q332
Y IN Q329
VIDEO IN Q328
VIDEO BUFFER Q356
Y BUFFER Q1301
C IN
Y IN
V IN
Y/C SW
R
G
B
BLK 1


J2
JZ-1
H1 (2/3)
H105 HP
IC251 L AMP
IC261 R AMP
D
V
ST-BY Q1
5V REG Q2
IC2 EURO CCT
IC3 STATIC-RAM
SYNC BUFF Q3
VIDEO
BLK OUT Q4
R OUT Q7
G OUT Q6
B OUT Q5
IC1 MICRO CONT
RESET Q8
X1
X2
RV1 RGB ADJ
TEXT R
TEXT G
TEXT B
BLK 2
SCCP
ABL
H2
D1651
D1652
D1654
IC1651 IR DET
LED A
LED B
RES
SIRCS
50/60 SW Q001
RGB SW Q002
J1 (2/2)
HPLS
H CENT
V SAW
V ANG
D1502
RV1504 H SIZE
RV1508 H CENT
RV1503 PIN AMP
RV1509 V ANG
RV1507 V SIZE
RV1501 PIN COR
RV1502 PIN PHASE
RV1505 CORNER COR
RV1506 V CENT
IC1501 EAST-WAST CORRECTION
COMP
ABL 1
ABL 2
P OUT
V CENT
H CENT
+135V
L810
L805
T801 H.D.T
H DRIVER Q805
H OUT Q804
V CENT Q505,506
CANAL+BLK SW Q507
IC502 V OUT
IC501 DEFLECTION PROCESSOR
VIDEO AMP Q598
RV501 +B ADJ
CF501
RV502 H PHASE
CONSTANT CURRENT SOURCE Q502
V SIZE
V PAR
H-
H+
V-
V+
B1
ABL Q307
CANAL +BLK Q301
ON SCREEN DISPLAY SW
FAS PICTURE MUTE SW
ON SCREEN DISPLAY SW Q302,303,304
IC301 VIDEO PROCESSOR
IC303 1HDELAY
IC304 COLOR PROCESSOR
D/A CONVERTOR Q302
HUE BUFFER Q320
PAL/SECAM SW Q345
SECAM SW Q344
SECAM SW NTSC(3.58)SW NTSC(4.43)SW Q335,336,337
NTSC 3.58 SW Q348
SECAM SW Q309
SECAM TRAP SW NTSC TRAP SW Q341,342
CLK BUFFER Q324
X302
Q373
MUTE Q308
ST BY SY Q306
PAL SW Q347
C OUT Q343
IC306 Y/SW
C IN Q332
Y IN Q329
VIDEO IN Q328
VIDEO BUFFER Q330
VIDEO AMP Q352,355
BUFFER Q354,353
IC315 A/D CONVERTER
IC311 D/A CONVERTER
IC310 COMB CONTROL
VIDEO CLAMP Q358
CLAMP BIAS Q357,359
C OUT Q331
C BUFFER Q363,364
Y OUT Q327
Y BUFFER Q362,365
Y/C SW Q333
VM MUTE Q1303
Y IN Q346
Y BUFFER Q367
CLK AMPLIFICATORE 3,2,1 Q323,322,321
SHP BUFFER Q366
VIDEO BUFFER Q356
SHP AMP Q368,369,370
IC308 Y SW
Y BUFFER Q340
VM AMP Q372
CLK BUFFER Q360
Y BUFFER Q1301
Y BUFFER Q1302
Y BUFFER Q338,339
CLK AMP Q350,361
ANTI PRIORITY SCART Q305
Y SW Q334
VM BUFFER Q371
SECAM SW Q310,311
IC312 MEMORY
IC313 MEMORY
PAL SW Q351
MUTE
HUE
ST BY
SDA
SCL
BLK 1
Y/C SW
VIDEO OUT
P/ON
CHAR
V BLK
VM OUT
T802 FBT
D801
D802
D803
27V
135V
200V
ABL AMP Q801
H2
H1
HV
FV
G2
C
RV702 H-STAT
RV701 SCREEN
R DRIVE Q702
R OUT Q703
ACO MEASURING Q704
G DRIVE Q705
G OUT Q706
ACO MEASURING Q707
B DRIVE Q708
B OUT Q709
ACO MEASURING Q710
D702
D703
D704
AUTO CUTOFF
R OUT
G OUT
B OUT
AC
V901
DY ASS'Y
KV-E2921D
VM
PRE AMP Q751,752
PUSH-PULL OUT Q753,754
VM OUT
VM COIL

5-2. CIRCUIT BOARDS LOCATION


C
H1
J2
A
VM
KV-E2921D ONLY
IFG-5.5S
H2
B1
F
D
J1
V

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: *	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

5-3. SCHEMATIC DIAGRAM AND PRINTED WIRING BOARDS

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note :

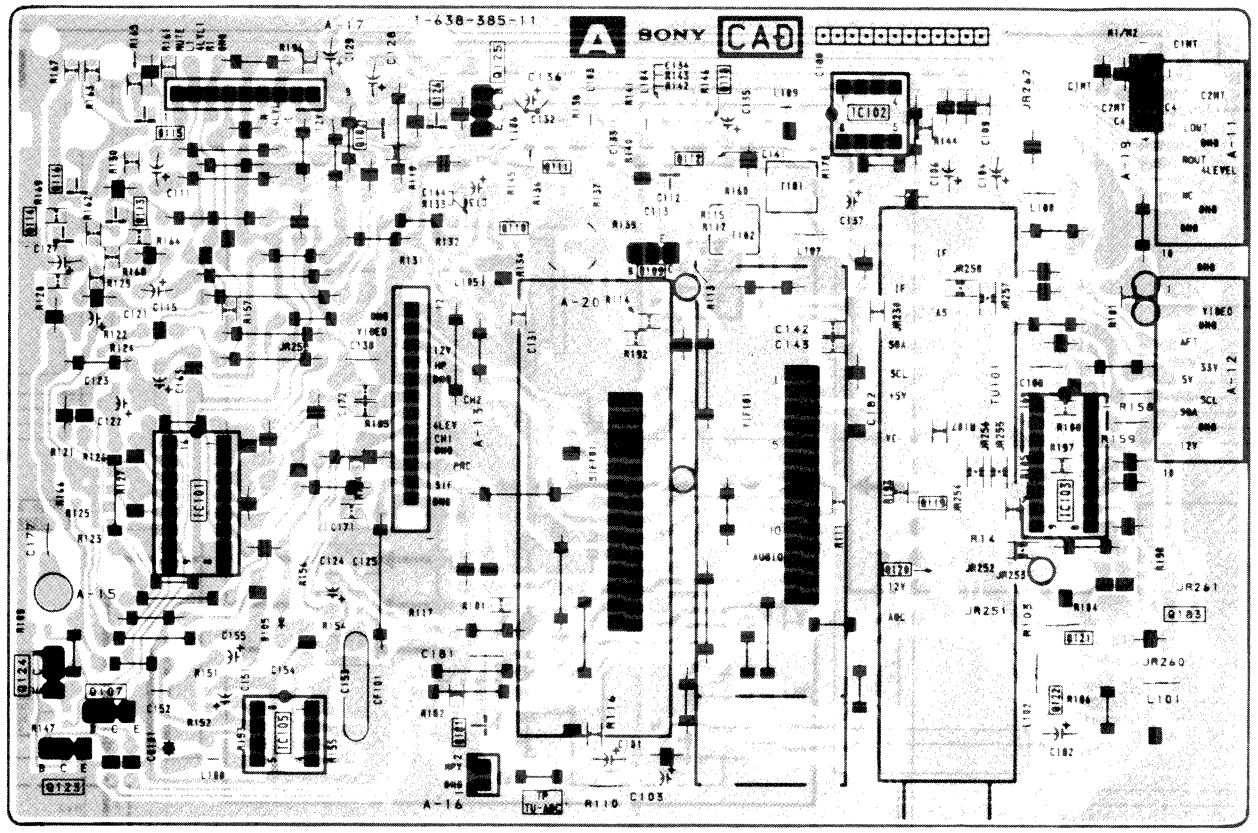
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm
Rating electrical power : 1/4W

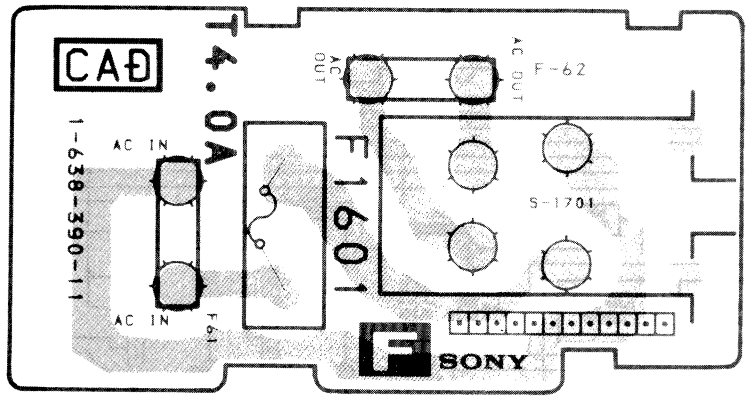
- Chip resistor is in 1/10W.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000k Ω
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ☐ : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B.unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ━━ : B + line.
- ➡ : signal path. (RF)

A [TUNER, SIF, VIF] **F** [AC IN, POWER SW] **J1** [AUDIO CONTROL, AV INPUT, Y/C INPUT, SCART VIDEO OUT, EAST-WEST CORRECTION] **J2** [SPEAKER TERMINAL] **VM** [V

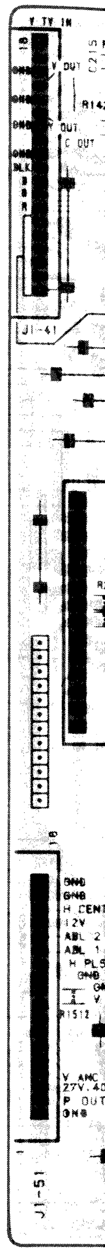
–A BOARD–


1-638-385-11
A
SONY
CAD
IC101
IC102
IC103
IC105
TU101
A-20
A-15
A-16
A-19
A-11
A-12
VIDEO
AFT
SCL
SDA
12V
5V

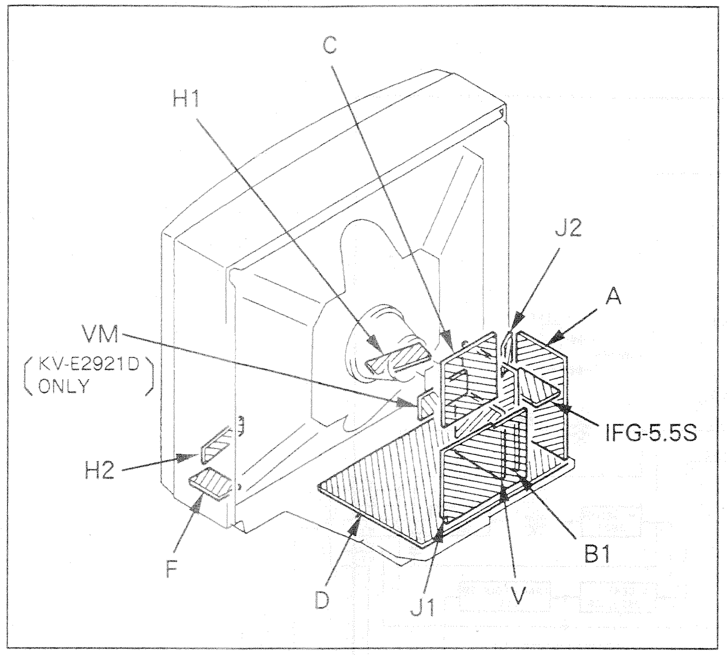
–F BOARD–


CAD
T4.0A
F1601
1-638-390-11
AC IN
AC IN
AC OUT
AC OUT
F-62
F61
S-1701
F
SONY

–J1 BO


J1-41
J1-51
V OUT
C OUT
H CENT
12V
ABL
H PLS
V ANC
P OUT
GND

5-2. CIRCUIT BOARDS LOCATION



Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	: ✻	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

5-3. SCHEMATIC DIAGRAM AND PRINTED WIRING BOARDS

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note :

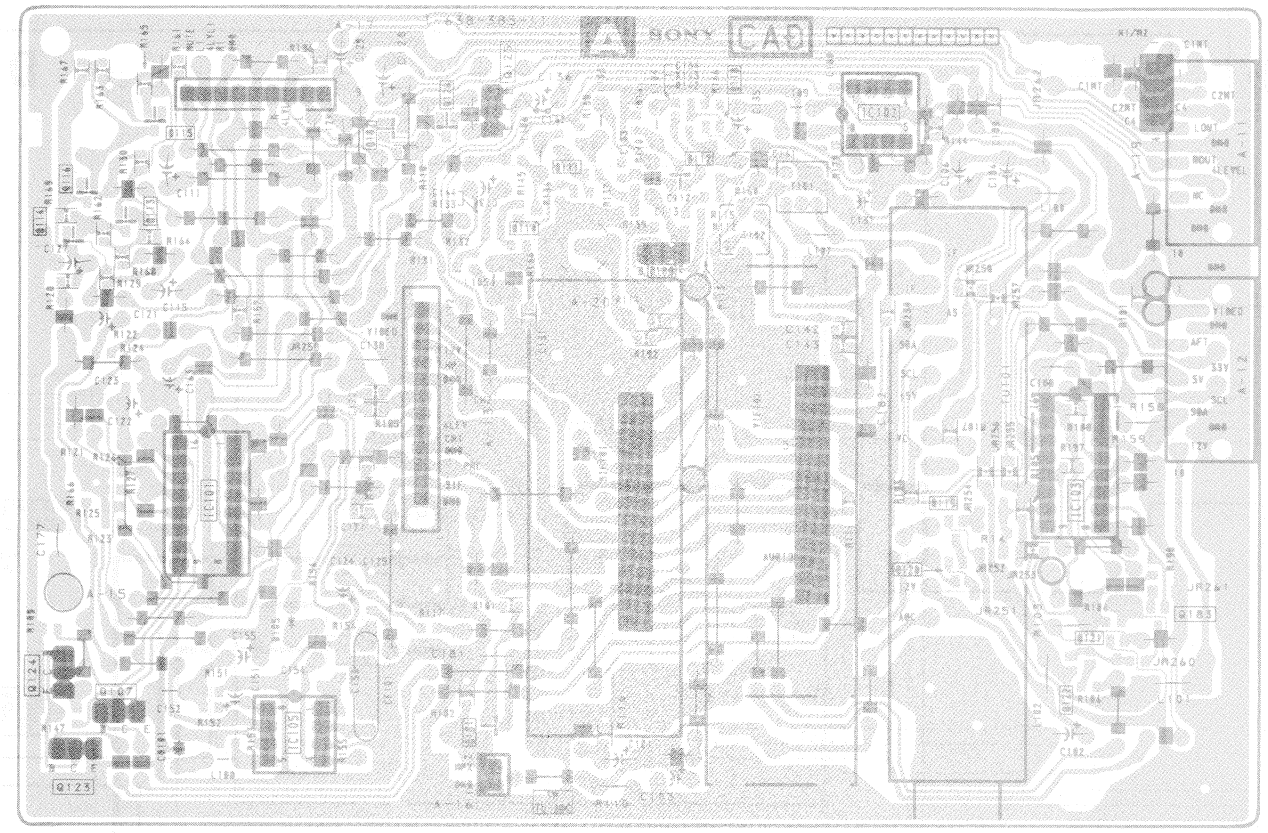
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch :	5mm
Rating electrical power :	1/4W

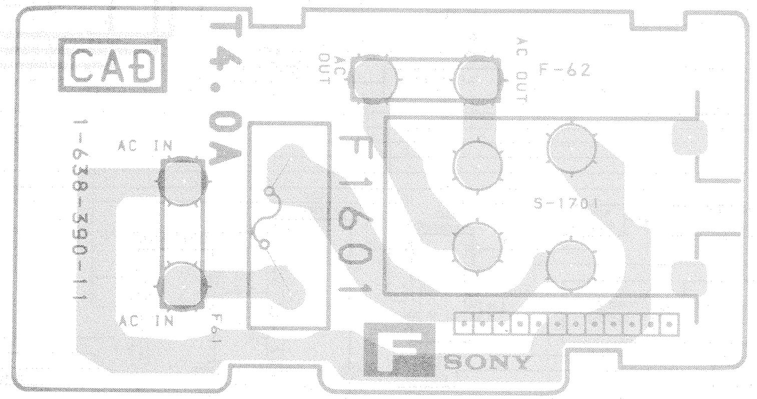
- Chip resistor is in 1/10W.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000k Ω
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- △ : internal component.
- ☐ : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B.unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ━━ : B + line.
- ➡ : signal path. (RF)

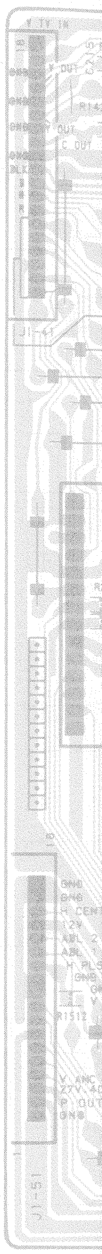
A [TUNER, SIF, VIF] **F** [AC IN, POWER SW] **J1** [AUDIO CONTROL, AV INPUT, Y/C INPUT, SCART VIDEO OUT, EAST-WEST CORRECTION] **J2** [SPEAKER TERMINAL] **VM**

–A BOARD–



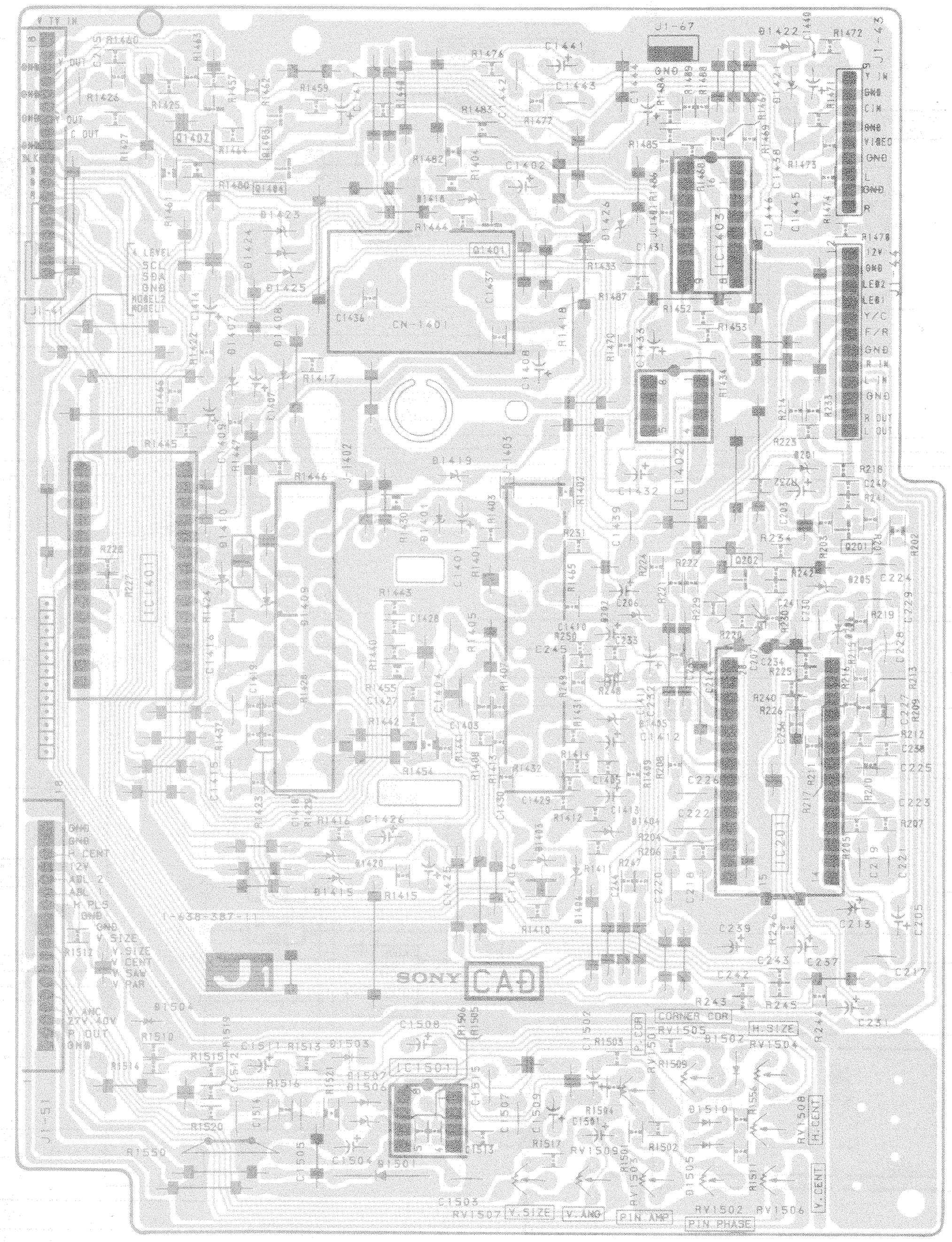
–F BOARD–





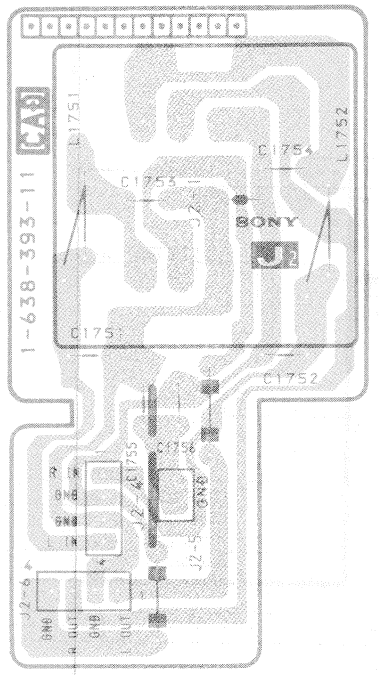
PEAKER TERMINAL] **VM** [VM AMP] **H1** [CONTROL SW, AV INPUT HEADPHONE] **H2** [SIRCS, RECEIVER, INDICATOR]

–J1 BOARD–



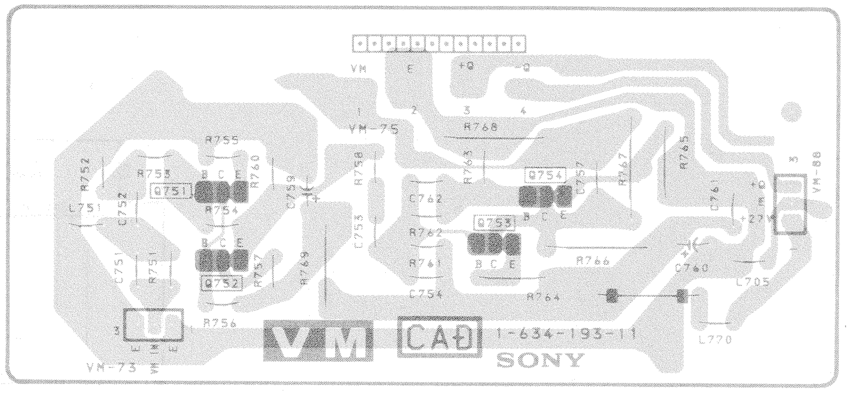
J1
SONY
CAD
1-638-387-11

–J2 BOARD–



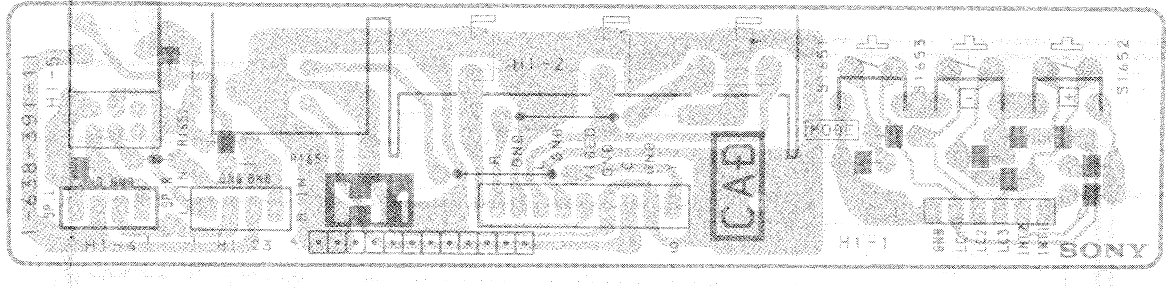
CAD
1-638-393-11
SONY
J2

–VM BOARD– (KV-E2921D ONLY)



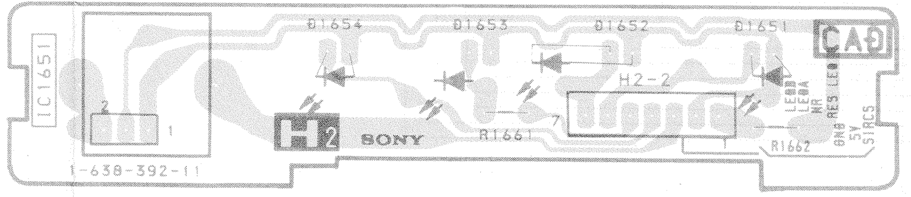
VM
CAD
1-634-193-11
SONY

–H1 BOARD–

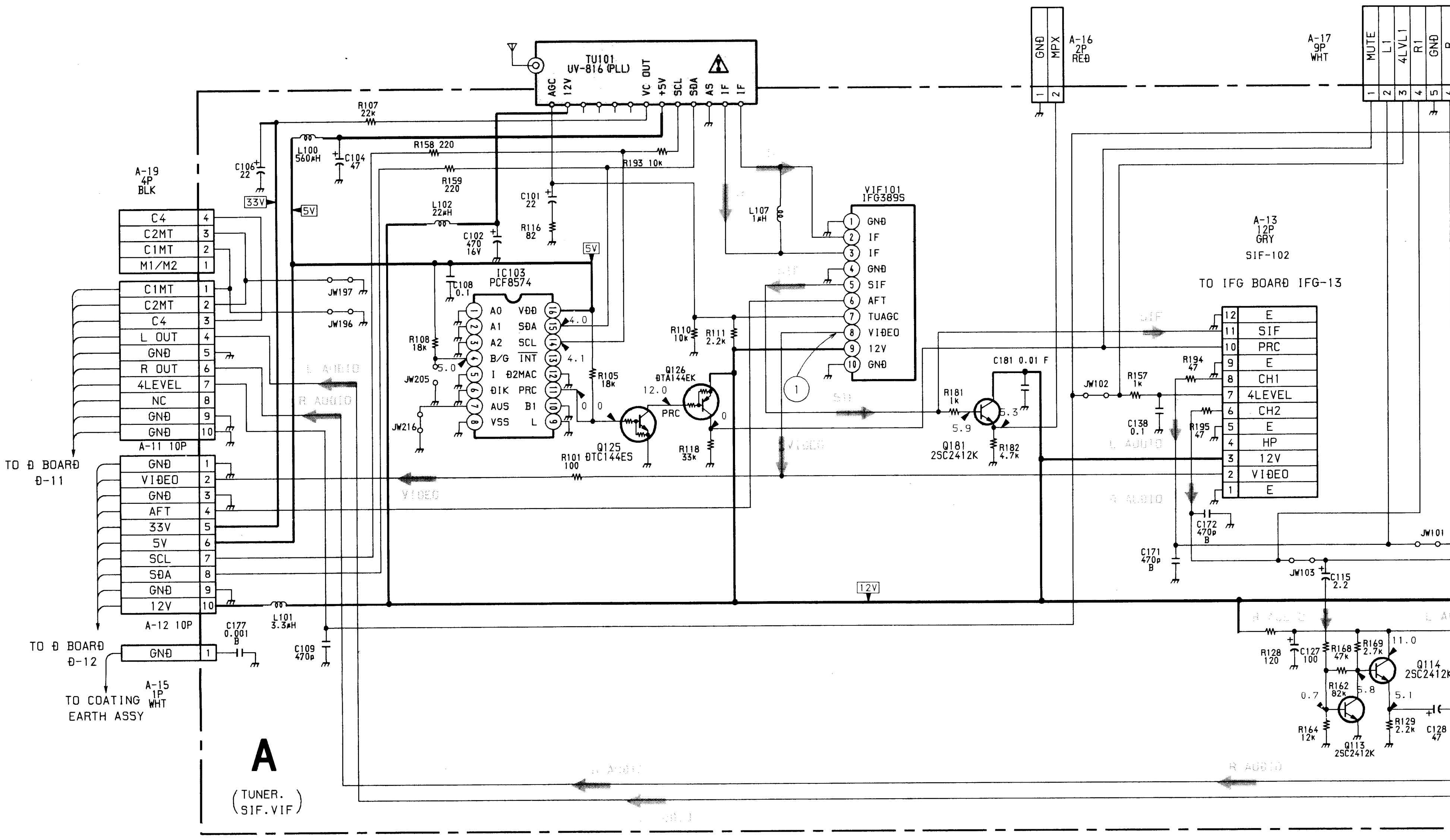


1-638-391-11
H1
CAD
SONY

–H2 BOARD–

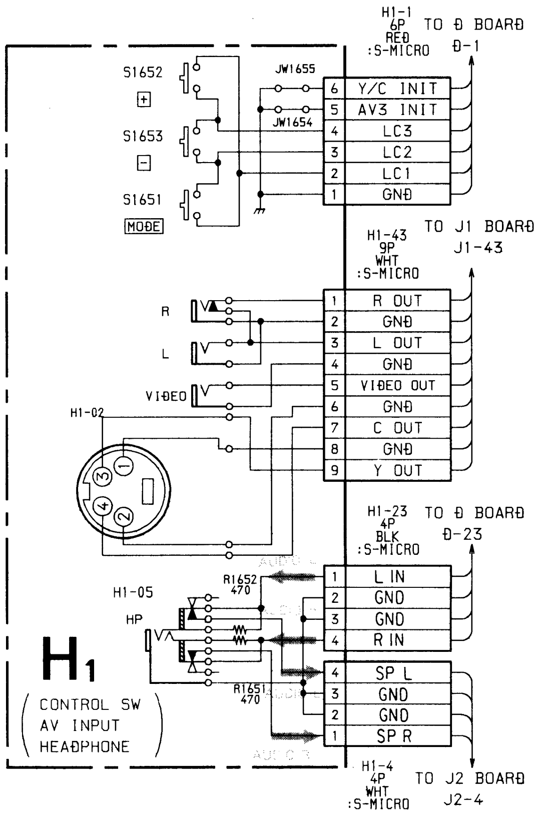


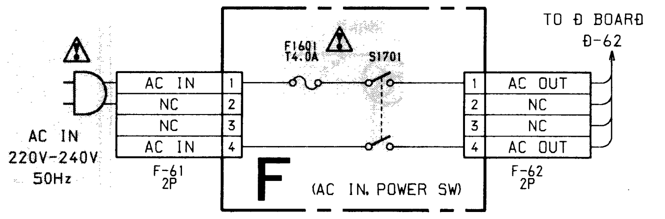
IC1651
H2
SONY
CAD
1-638-392-11

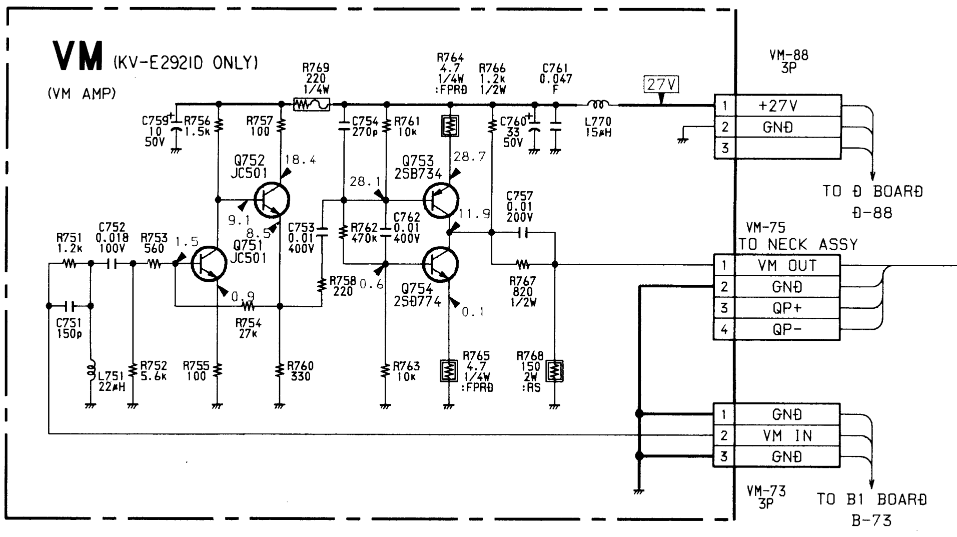

A
(TUNER. SIF.VIF)
TU101 UV-816 (PLL)
AGC
12V
VC OUT
+5V
SCL
SDA
AS
IF
IF
A-19 4P BLK
C4
C2MT
C1MT
M1/M2
C1MT
C2MT
C4
L OUT
GND
R OUT
4LEVEL
NC
GND
GND
A-11 10P
TO D BOARD D-11
GND
VIDEO
GND
AFT
33V
5V
SCL
SDA
GND
12V
A-12 10P
TO D BOARD D-12
GND
A-15 1P WHT
TO COATING EARTH ASSY
IC103 PCF8574
A0
A1
A2
B/G
I D2MAC
DIK
AUS
VSS
VDD
SDA
SCL
INT
PRC
B1
L
Q125 DTC144ES
Q126 DTA144EK
VIF101 IFG389S
GND
IF
IF
GND
SIF
AFT
TUAGC
VIDEO
12V
GND
Q181 2SC2412K
A-16 2P RED
GND
MPX
A-17 9P WHT
MUTE
L1
4LVL1
R1
GND
A-13 12P GRY
SIF-102
TO IFG BOARD IFG-13
E
SIF
PRC
E
CH1
4LEVEL
CH2
E
HP
12V
VIDEO
E
Q114 2SC2412K
Q113 2SC2412K
L AUDIO
R AUDIO
VIDEO
SIF
12V
5V
33V

A BOARD

IC103	PCF857
Q113	2SC241
Q114	2SC241
Q115	2SC241
Q116	2SC241
Q125	DTC144
Q126	DTA144
Q181	2SC241

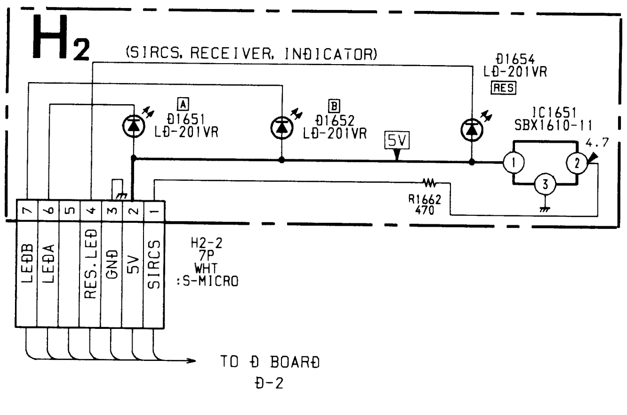

H1
(CONTROL SW AV INPUT HEADPHONE)
H1-1 6P RED :S-MICRO
TO D BOARD D-1
S1652 +
S1653 −
S1651 MODE
JW1655
JW1654
Y/C INIT
AV3 INIT
LC3
LC2
LC1
GND
H1-43 9P WHT :S-MICRO
TO J1 BOARD J1-43
R
L
VIDEO
H1-02
R OUT
GND
L OUT
GND
VIDEO OUT
GND
C OUT
GND
Y OUT
H1-23 4P BLK :S-MICRO
TO D BOARD D-23
H1-05
HP
R1652 470
R1651 470
L IN
GND
GND
R IN
SP L
GND
GND
SP R
H1-4 4P WHT :S-MICRO
TO J2 BOARD J2-4


TO D BOARD D-62
AC IN 220V-240V 50Hz
AC IN
NC
NC
AC IN
F-61 2P
F1601 T4.0A
S1701
AC OUT
NC
NC
AC OUT
F-62 2P
F
(AC IN, POWER SW)


VM (KV-E2921D ONLY)
(VM AMP)
R769 220 1/4W
R764 4.7 1/4W :FPRD
R766 1.2k 1/2W
C761 0.047 F
27V
VM-88 3P
+27V
GND
TO D BOARD D-88
Q752 JC501
Q751 JC501
Q753 2SB734
Q754 2SD774
VM-75 TO NECK ASSY
VM OUT
GND
QP+
QP-
GND
VM IN
GND
VM-73 3P
TO B1 BOARD B-73

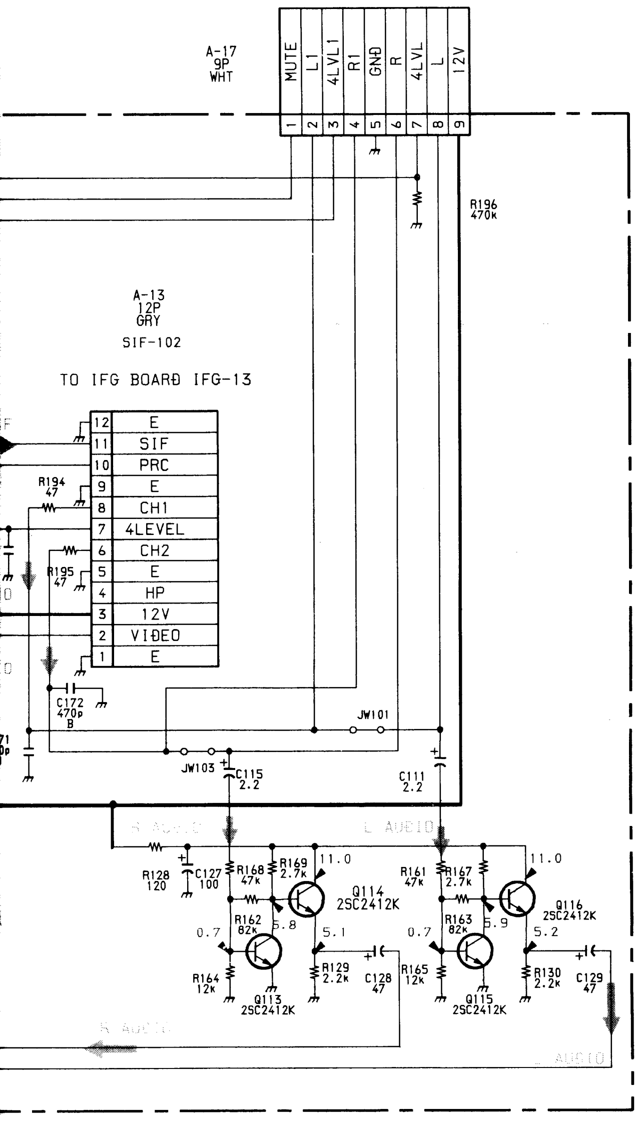
VM BOARD (KV-E2921D ON

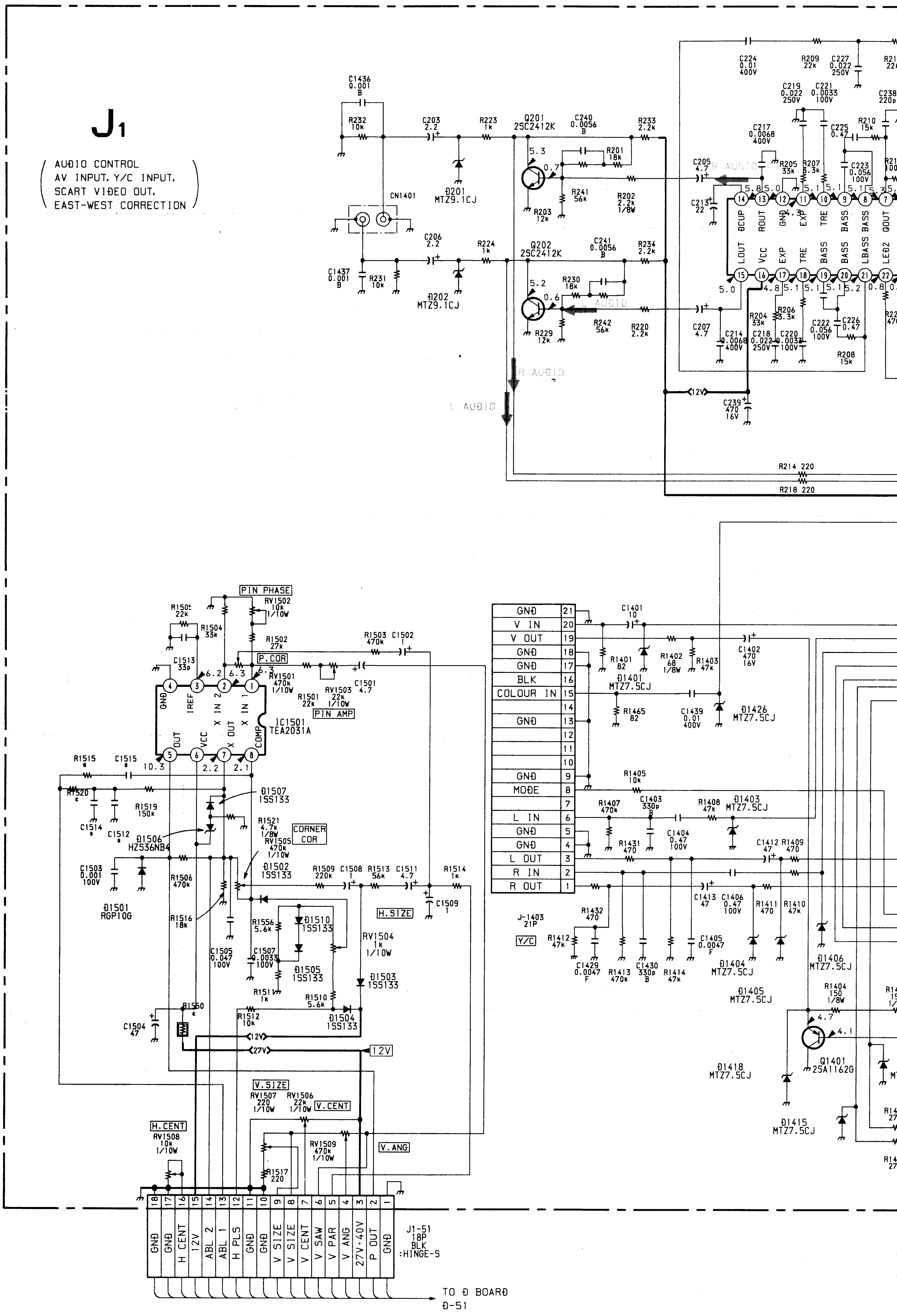
Q751	JC501	RE
Q752	JC501	RE
Q753	2SB734	PU
Q754	2SD774	PU


H2
(SIRCS. RECEIVER, INDICATOR)
A D1651 LD-201VR
B D1652 LD-201VR
D1654 LD-201VR RES
IC1651 SBX1610-11
5V
R1662 470
LEDB
LEDA
RES.LED
GND
5V
SIRCS
H2-2 7P WHT :S-MICRO
TO D BOARD D-2

H2 BOARD

IC1651	SBX1610-11	INFRARED RECIVER
D1651	LD-201VR	AUDIO CHANNEL A INDICATOR
D1652	LD-201VR	AUDIO CHANNEL B INDICATOR
D1654	LD-201VR	RESET

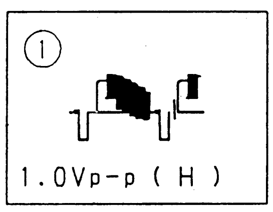

A-17
9P
WHT
MUTE
L1
4LVL1
R1
GND
R
4LVL
L
12V
A-13
12P
GRY
SIF-102
TO IFG BOARD IFG-13
E
SIF
PRC
E
CH1
4LEVEL
CH2
E
HP
12V
VIDEO
E
Q114
2SC2412K
Q116
2SC2412K
Q113
2SC2412K
Q115
2SC2412K
R AUDIO
L AUDIO

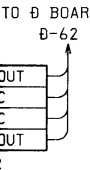

J1
AUDIO CONTROL
AV INPUT, Y/C INPUT,
SCART VIDEO OUT,
EAST-WEST CORRECTION
CN1401
Q201
2SC2412K
Q202
2SC2412K
D201
MTZ9.1CJ
D202
MTZ9.1CJ
R AUDIO
L AUDIO
PIN PHASE
P.COR
PIN AMP
IC1501
TEA2031A
CORNER COR
H.SIZE
V.SIZE
V.CENT
H.CENT
V.ANG
12V
GND
V IN
V OUT
BLK
COLOUR IN
MODE
L IN
L OUT
R IN
R OUT
Y/C
Q1401
2SA1162G
J1-51
18P
BLK
:HINGE-S
TO D BOARD
D-51

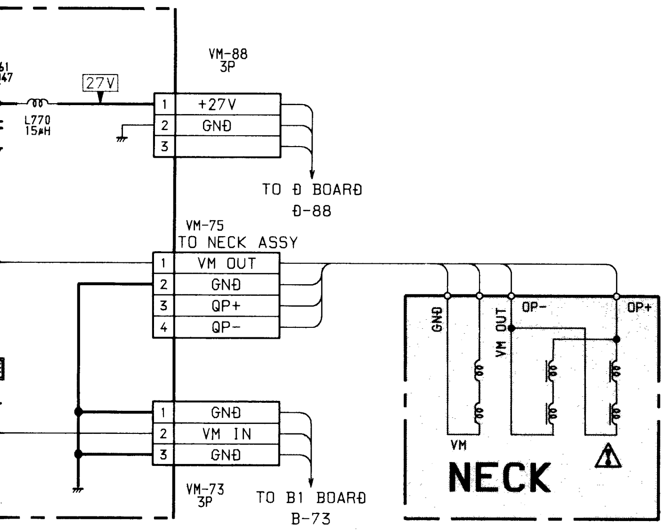
A BOARD

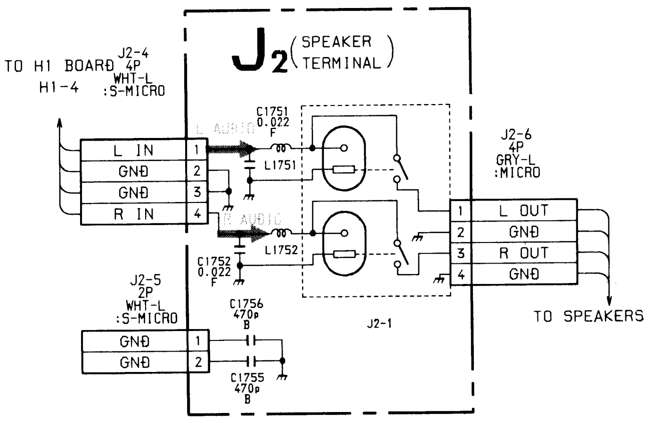
IC103	PCF8574	EXPANDER
Q113	2SC2412K	AUDIO AMP
Q114	2SC2412K	AUDIO AMP
Q115	2SC2412K	AUDIO AMP
Q116	2SC2412K	AUDIO AMP
Q125	DTC144ES	MUTE SW
Q126	DTA144EK	MUTE SW
Q181	2SC2412K	NICAM BUFFER

• WAVEFORMS A BOARD




TO D BOARD
D-62
OUT
OUT

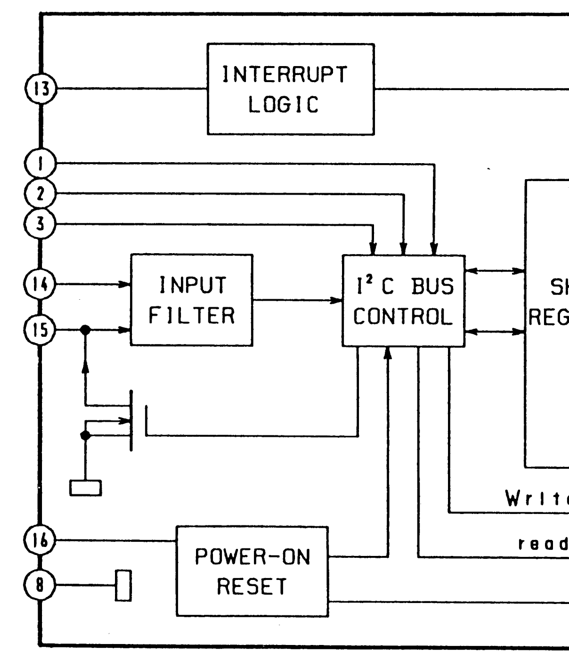

VM-88
3P
+27V
GND
TO D BOARD
D-88
VM-75
TO NECK ASSY
VM OUT
GND
QP+
QP-
GND
VM IN
GND
VM-73
3P
TO B1 BOARD
B-73
NECK

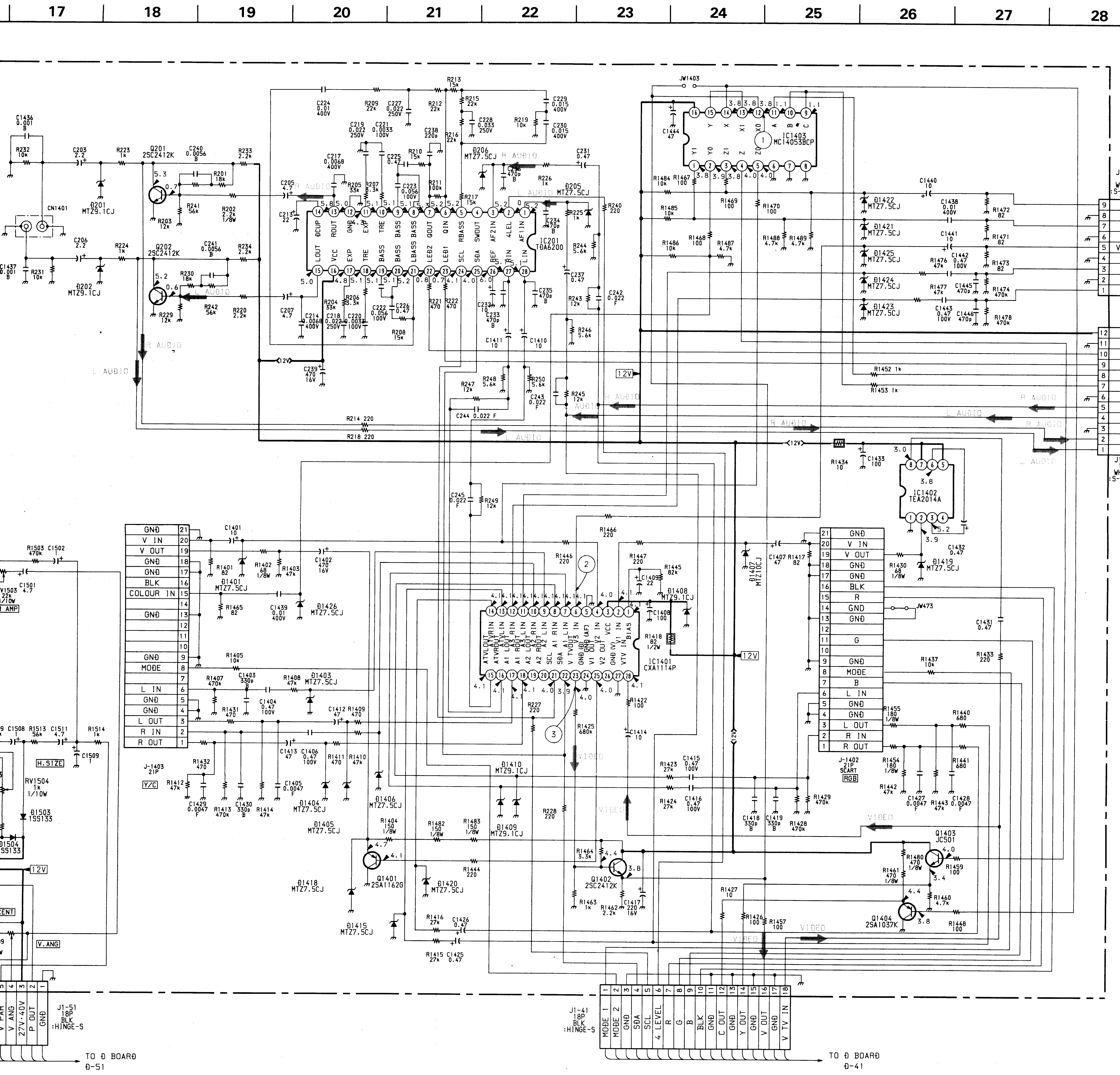

J2
SPEAKER TERMINAL
TO H1 BOARD H1-4
J2-4
4P
WHT-L
:S-MICRO
L IN
GND
GND
R IN
J2-5
2P
WHT-L
:S-MICRO
J2-6
4P
GRY-L
:MICRO
L OUT
GND
R OUT
GND
TO SPEAKERS
J2-1

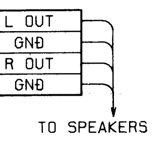
VM BOARD (KV-E2921D ONLY)

Q751	JC501	REF AMP
Q752	JC501	REF AMP
Q753	2SB734	PUSH-PULL OUT
Q754	2SD774	PUSH-PULL OUT

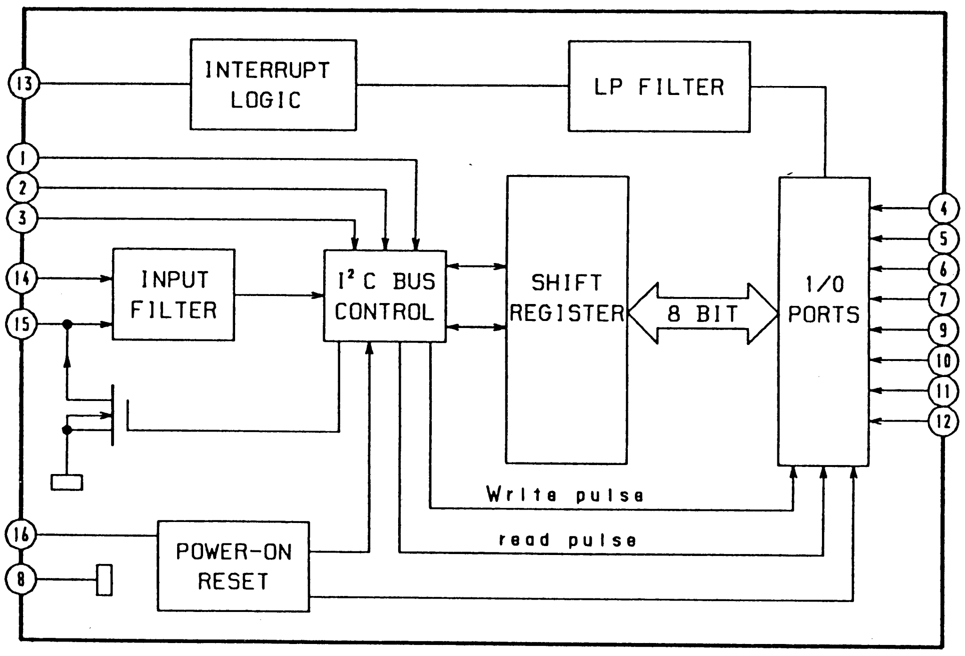
A BOARD IC103 PCF8574


INTERRUPT LOGIC
INPUT FILTER
I² C BUS CONTROL
POWER-ON RESET
Writ
read


17
18
19
20
21
22
23
24
25
26
27
28
IC201 TDA6200
IC1403 MC14053BCP
IC1402 TEA2014A
IC1401 CXA1114P
Q201 2SC2412K
Q202 2SC2412K
Q1401 2SA1162G
Q1402 2SC2412K
Q1403 JC501
Q1404 2SA1037K
CN1401
J-1403 21P Y/C
J-1402 21P SCART RGB
J1-51 18P BLK :HINGE-S
J1-41 18P BLK :HINGE-S
TO D BOARD D-51
TO D BOARD D-41
R AUDIO
L AUDIO
VIDEO
12V
H.SIZE
V.ANG
MODE 1
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C OUT
GND
Y OUT
GND
V OUT
GND
V TV IN


J2-6 4P GRY-L :MICRO
L OUT
GND
R OUT
GND
TO SPEAKERS

A BOARD IC103 PCF8574

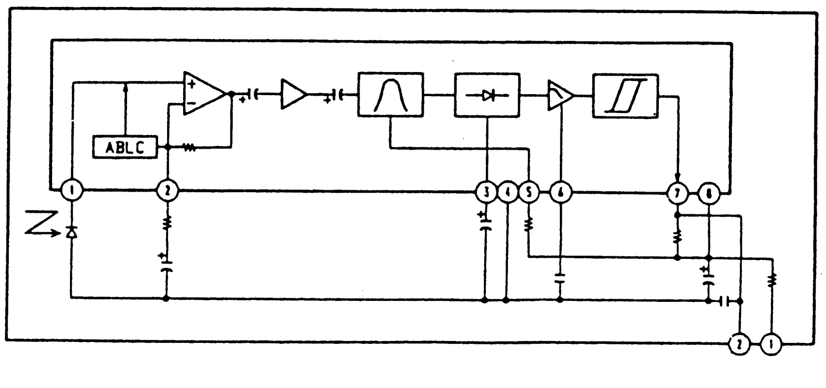

INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
13
1
2
3
14
15
16
8
4
5
6
7
9
10
11
12

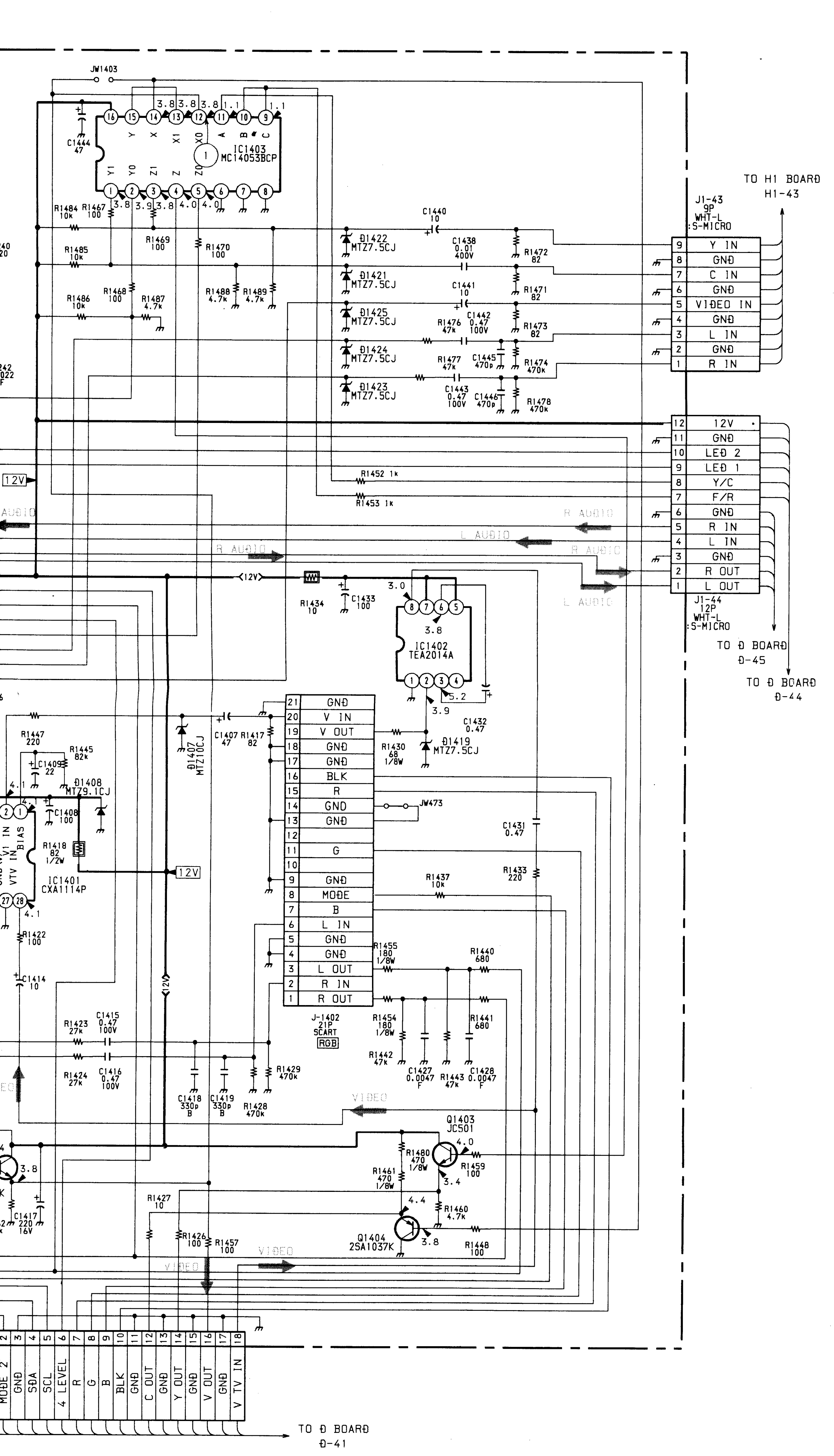
J1 BOARD *MARK

	KV-E2521D	K
C1512	0.0068MF 400V	
C1514	0.022MF 250V	
C1515	820PF 50V	
R1515	680K 1/10W:CHIP	
R1520	470K 1/10W:CHIP	390
R1550	JW	11W

— N

H2 BOARD IC1651 SBX1610-11

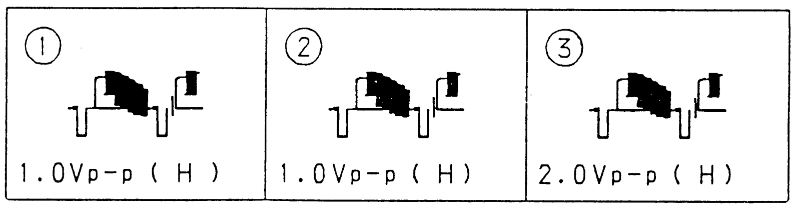

ABLC
1
2
3
4
5
6
7
8


JW1403
C1444
47
IC1403
MC14053BCP
R1484 10k
R1467 100
R1485 10k
R1486 10k
R1468 100
R1487 4.7k
R1469 100
R1470 100
R1488 4.7k
R1489 4.7k
C1440 10
D1422 MTZ7.5CJ
D1421 MTZ7.5CJ
D1425 MTZ7.5CJ
D1424 MTZ7.5CJ
D1423 MTZ7.5CJ
C1438 0.01 400V
R1472 82
C1441 10
R1471 82
C1442 0.47 100V
R1476 47k
R1473 82
R1477 47k
C1445 470p
R1474 470k
C1443 0.47 100V
C1446 470p
R1478 470k
TO H1 BOARD
H1-43
J1-43
9P
WHT-L
S-MICRO
Y IN
GND
C IN
GND
VIDEO IN
GND
L IN
GND
R IN
12V
GND
LED 2
LED 1
Y/C
F/R
GND
R IN
L IN
GND
R OUT
L OUT
J1-44
12P
WHT-L
S-MICRO
TO D BOARD
D-45
TO D BOARD
D-44
R1452 1k
R1453 1k
R AUDIO
L AUDIO
R AUDIO
L AUDIO
12V
R1434 10
C1435 100
IC1402
TEA2014A
C1432 0.47
D1419 MTZ7.5CJ
R1430 68 1/8W
R1447 220
R1445 82k
C1409 22
D1408 MTZ9.1CJ
C1408 100
R1418 82 1/2W
IC1401
CXA1114P
D1407 MTZ10CJ
C1407 47
R1417 82
JW473
C1431 0.47
R1437 10k
R1433 220
GND
V IN
V OUT
GND
GND
BLK
R
GND
GND
G
GND
MODE
B
L IN
GND
GND
L OUT
R IN
R OUT
J-1402
21P
SCART
RGB
R1455 180 1/8W
R1440 680
R1454 180 1/8W
R1441 680
R1442 47k
C1427 0.0047 F
R1443 47k
C1428 0.0047 F
R1422 100
C1414 10
R1423 27k
C1415 0.47 100V
R1424 27k
C1416 0.47 100V
C1418 330p B
C1419 330p B
R1428 470k
R1429 470k
VIDEO
Q1403
JC501
R1480 470 1/8W
R1461 470 1/8W
R1459 100
R1460 4.7k
Q1404
2SA1037K
R1448 100
C1417 220 16V
R1427 10
R1426 100
R1457 100
VIDEO
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C OUT
GND
Y OUT
GND
V OUT
GND
V TV IN
TO D BOARD
D-41

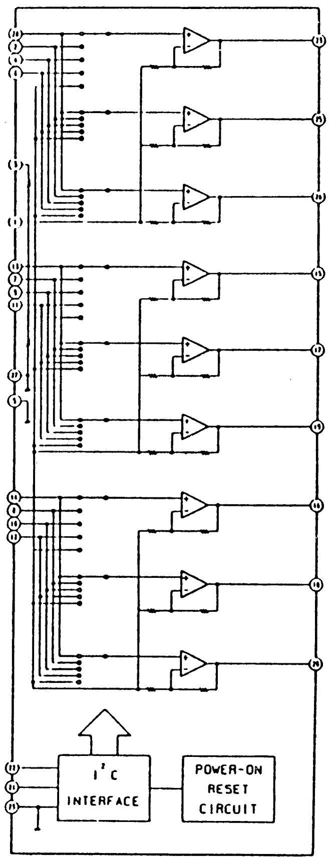
J1 BOARD

IC201	TDA6200	AUDIO CONTROL
IC1401	CXA1114P	AV SW
IC1402	TEA2014A	SCART VIDEO OUT
IC1403	MC14053BCP	COMPOSITE Y/C SW
IC1501	TEA2031A	EAST-WEST CORRECTION
Q201	2SC2412K	AUDIO R BUFF
Q202	2SC2412K	AUDIO L BUFF
Q1401	2SA1162G	VIDEO OUT
Q1402	2SC2412K	VIDEO OUT BUFF
Q1403	JC501	Y OUT BUFF
Q1404	2SA1037K	C OUT BUFF
D201	MTZJ-T-77-9.1C	PROTECT
D202	MTZJ-T-77-9.1C	PROTECT
D205	MTZJ-T-77-7.5C	PROTECT
D206	MTZJ-T-77-7.5C	PROTECT
D1401	MTZJ-T-77-7.5C	PROTECT
D1403	MTZJ-T-77-7.5C	PROTECT
D1404	MTZJ-T-77-7.5C	PROTECT
D1405	MTZJ-T-77-7.5C	PROTECT
D1406	MTZJ-T-77-7.5C	PROTECT
D1407	MTZJ-T-77-10C	PROTECT
D1408	MTZJ-T-77-9.1C	REG
D1409	MTZJ-T-77-9.1C	PROTECT
D1410	MTZJ-T-77-9.1C	PROTECT
D1415	MTZJ-T-77-7.5C	PROTECT
D1418	MTZJ-T-77-7.5C	PROTECT
D1419	MTZJ-T-77-7.5C	PROTECT
D1420	MTZJ-T-77-7.5C	PROTECT
D1421	MTZJ-T-77-7.5C	PROTECT
D1422	MTZJ-T-77-7.5C	PROTECT
D1423	MTZJ-T-77-7.5C	PROTECT
D1424	MTZJ-T-77-7.5C	PROTECT
D1425	MTZJ-T-77-7.5C	PROTECT
D1426	MTZJ-T-77-7.5C	PROTECT
D1501	RGP10GPKG23	PROTECT
D1502	1SS133	DE COUPLING H SIZE
D1503	1SS133	CLIPPING V PARABORA
D1504	1SS133	CLIPPING H PULSE
D1505	1SS133	REG
D1506	HZS36NB4TD	PROTECT
D1507	1SS133	PROTECT
D1510	1SS133	REG

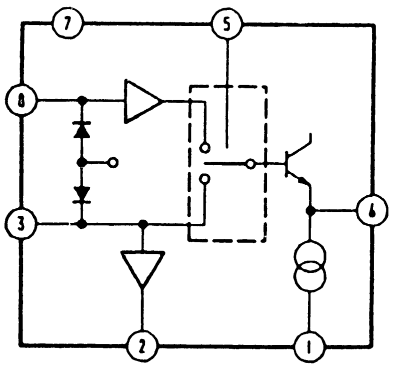
- **WAVEFORMS J1 BOARD**


①
1.0Vp-p (H)
②
1.0Vp-p (H)
③
2.0Vp-p (H)

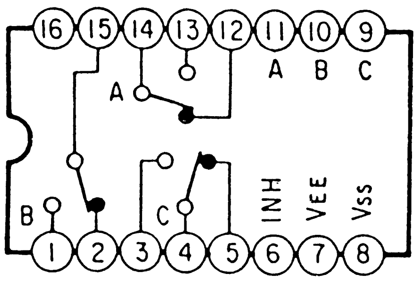
J1 BOARD IC1401 CXA1114P


I²C
INTERFACE
POWER-ON
RESET
CIRCUIT

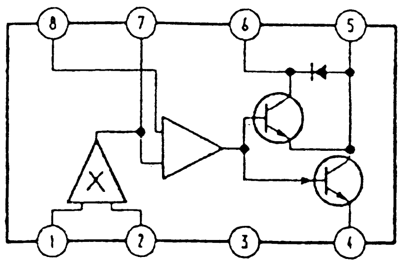
J1 BOARD IC1402 TEA2014A



J1 BOARD IC1403 MC14053BCP


16
15
14
13
12
11
10
9
A
B
C
A
B
C
INH
VEE
Vss
1
2
3
4
5
6
7
8

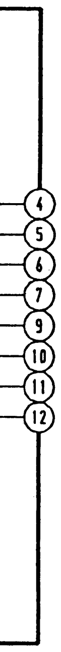
J1 BOARD IC1501 TEA2031A



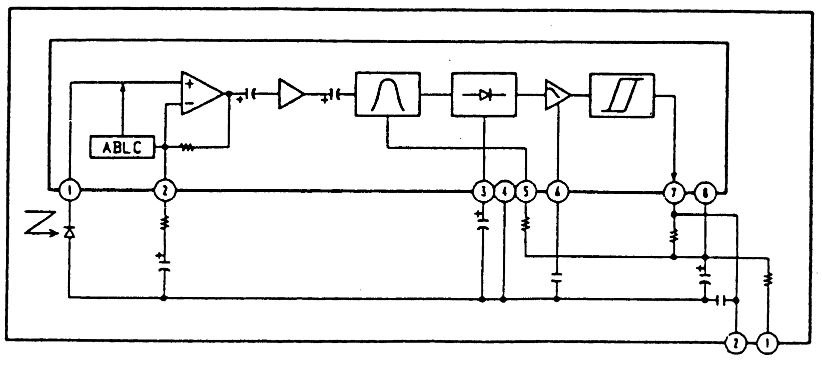
J1 BOARD ＊MARK

	KV-E2521D	KV-E2921D
C1512	0.0068MF 400V	——
C1514	0.022MF 250V	——
C1515	820PF 50V	——
R1515	680K 1/10W:CHIP	——
R1520	470K 1/10W:CHIP	390K 1/10W:CHIP
R1550	JW	11W : RS

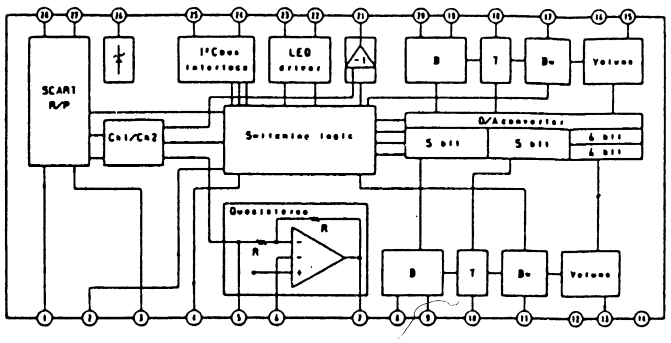
— NOT MOUNTED


4
5
6
7
8
9
10
11
12

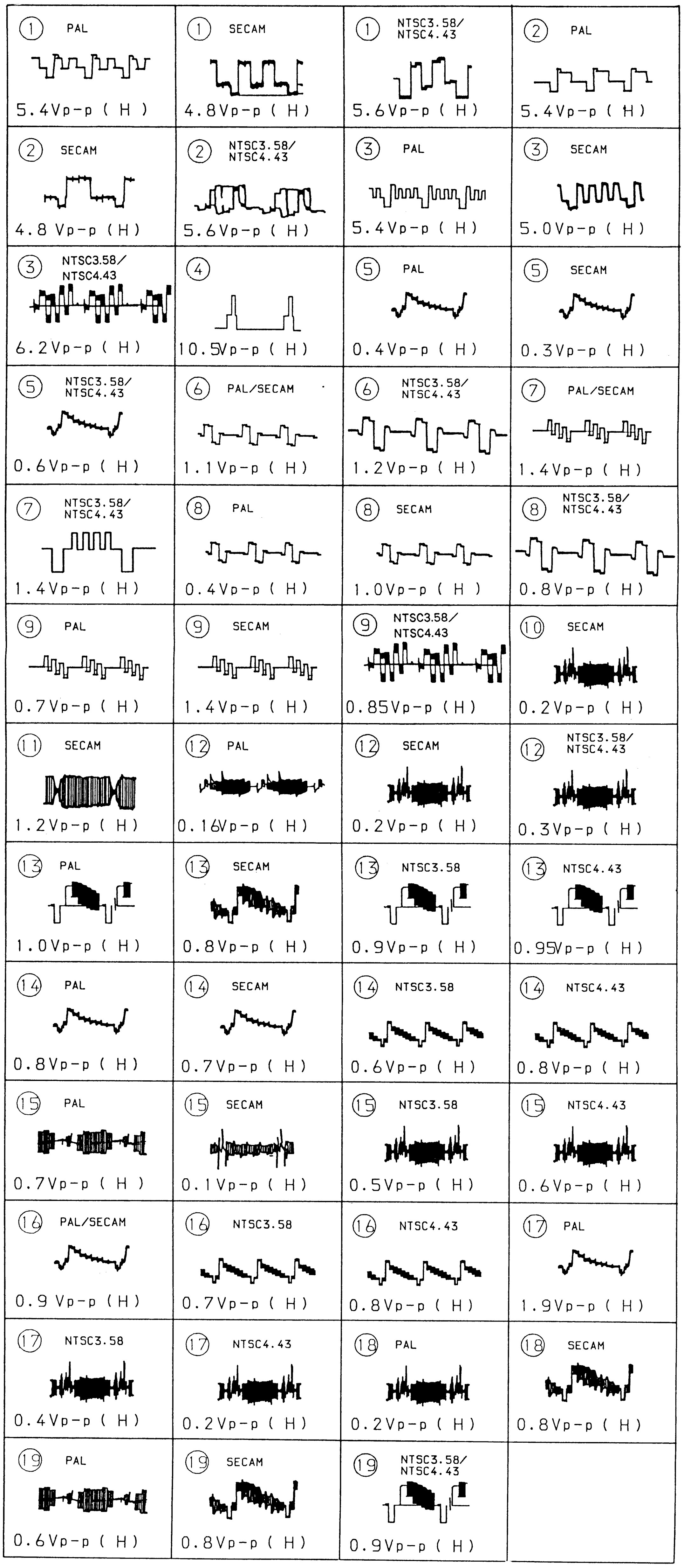
H2 BOARD IC1651 SBX1610-11


ABLC
1
2
3
4
5
6
7
8
2
1

J1 BOARD IC201 TDA6200


SCART
R/P
I²C bus
interface
LED
driver
Ch1/Ch2
Switching logic
D/A converter
5 bit
5 bit
6 bit
6 bit
Quasistereo
Volume
Volume

• WAVEFORMS B1 BOARD


① PAL
5.4Vp-p (H)
① SECAM
4.8Vp-p (H)
① NTSC3.58/ NTSC4.43
5.6Vp-p (H)
② PAL
5.4Vp-p (H)
② SECAM
4.8 Vp-p (H)
② NTSC3.58/ NTSC4.43
5.6Vp-p (H)
③ PAL
5.4Vp-p (H)
③ SECAM
5.0Vp-p (H)
③ NTSC3.58/ NTSC4.43
6.2Vp-p (H)
④
10.5Vp-p (H)
⑤ PAL
0.4Vp-p (H)
⑤ SECAM
0.3Vp-p (H)
⑤ NTSC3.58/ NTSC4.43
0.6Vp-p (H)
⑥ PAL/SECAM
1.1Vp-p (H)
⑥ NTSC3.58/ NTSC4.43
1.2Vp-p (H)
⑦ PAL/SECAM
1.4Vp-p (H)
⑦ NTSC3.58/ NTSC4.43
1.4Vp-p (H)
⑧ PAL
0.4Vp-p (H)
⑧ SECAM
1.0Vp-p (H)
⑧ NTSC3.58/ NTSC4.43
0.8Vp-p (H)
⑨ PAL
0.7Vp-p (H)
⑨ SECAM
1.4Vp-p (H)
⑨ NTSC3.58/ NTSC4.43
0.85Vp-p (H)
⑩ SECAM
0.2Vp-p (H)
⑪ SECAM
1.2Vp-p (H)
⑫ PAL
0.16Vp-p (H)
⑫ SECAM
0.2Vp-p (H)
⑫ NTSC3.58/ NTSC4.43
0.3Vp-p (H)
⑬ PAL
1.0Vp-p (H)
⑬ SECAM
0.8Vp-p (H)
⑬ NTSC3.58
0.9Vp-p (H)
⑬ NTSC4.43
0.95Vp-p (H)
⑭ PAL
0.8Vp-p (H)
⑭ SECAM
0.7Vp-p (H)
⑭ NTSC3.58
0.6Vp-p (H)
⑭ NTSC4.43
0.8Vp-p (H)
⑮ PAL
0.7Vp-p (H)
⑮ SECAM
0.1Vp-p (H)
⑮ NTSC3.58
0.5Vp-p (H)
⑮ NTSC4.43
0.6Vp-p (H)
⑯ PAL/SECAM
0.9 Vp-p (H)
⑯ NTSC3.58
0.7Vp-p (H)
⑯ NTSC4.43
0.8Vp-p (H)
⑰ PAL
1.9Vp-p (H)
⑰ NTSC3.58
0.4Vp-p (H)
⑰ NTSC4.43
0.2Vp-p (H)
⑱ PAL
0.2Vp-p (H)
⑱ SECAM
0.8Vp-p (H)
⑲ PAL
0.6Vp-p (H)
⑲ SECAM
0.8Vp-p (H)
⑲ NTSC3.58/ NTSC4.43
0.9Vp-p (H)

As to the voltage volue shown by the mark ※ on the Schematic Diagram, see the another list.

IC·NO	PIN·NO	PAL	SECAM	NTSC 3.38	NTSC 4.43
IC301	⑤	6.7	4.8	4.8	4.8
	⑮	8.9	7.0	7.0	7.0
	⑲	3.4	3.4	3.8	3.4
	㉖	6.6	6.6	6.0	6.3
IC304	③	0.1	6.8	6.9	6.8
	⑤	9.9	0	9.9	9.9
	⑦	4.6	0	4.6	4.6
	⑧	3.4	3.0	3.4	3.4
	⑨	3.4	3.0	3.4	3.4
	⑩	4.6	3.4	4.6	4.6
	㉑	2.3	3.1	3.1	2.3
	㉒	5.6	5.6	5.6	7.4
	㉓	7.5	7.5	5.7	5.7
	㉕	0.1	0.1	0.1	6.0
	㉖	0.1	0.1	6.0	0.1
	㉗	0.1	6.0	0.1	0.1
	㉘	6.0	0.1	0.1	0.1

Q·NO		PAL	SECAM	NTSC 3.38	NTSC 4.43
Q338	B	2.4	3.9	3.9	3.9
	E	3.0	4.6	4.6	4.6
Q339	B	3.0	4.6	4.6	4.6
	E	2.4	3.9	3.9	3.9
Q341	B	0	0.6	0.4	0.1
	C	11.6	0	11.6	11.6
Q342	B	0	0	0.4	0
	C	11.7	0	11.7	11.7
Q343	B	3.4	5.4	5.3	5.3
	E	2.8	4.7	4.7	4.7
Q344	B	0	5.4	1.0	0.1
	E	4.4	4.8	1.5	4.5
Q345	B	5.0	0.1	1.9	5.0
	E	4.4	4.4	1.4	4.4
Q347	B	0.6	0	0	0
	C	0.1	11.9	11.9	11.9
Q348	B	0.1	0.1	1.0	0.1
	C	1.3	0.2	0.2	0.4

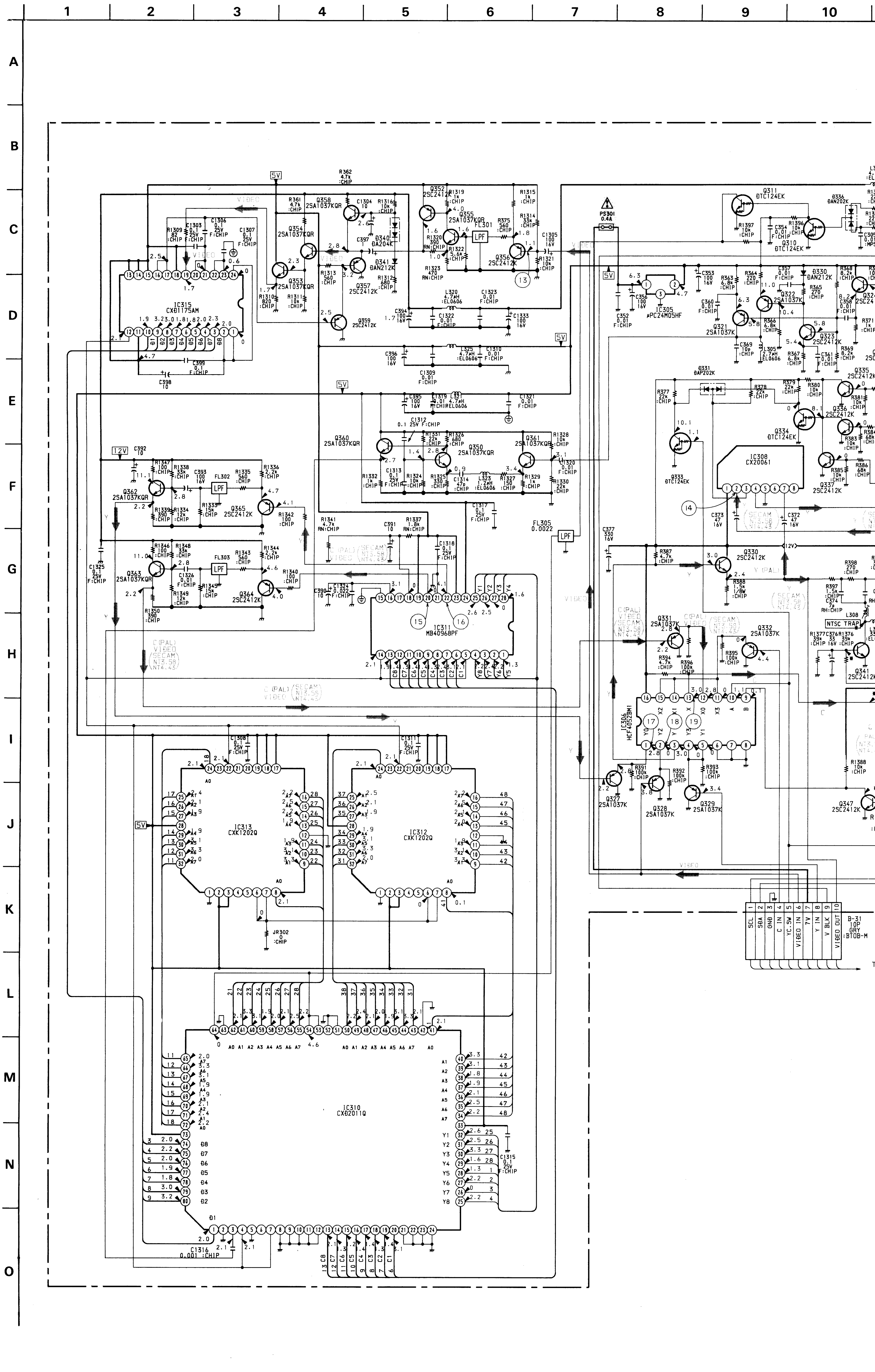
B1 BOARD

IC301	TDA4580-V4	VIDEO PROCESSOR
IC302	TDA8442-N3	D/A CONVERTOR
IC303	TDA4660T	1H DELAY
IC304	TDA4650WP	COLOR PROCESSOR
IC305	µPC24M05HF	REGULATAR
IC306	HCF4052BM1	Y/C SW
IC308	CX20061	Y INTERRURT
IC310	CXD2011Q	COMB CONTROL
IC311	MB40968PF	D/A COMVERTER
IC312	CXK1202Q	MEMORY
IC313	CXK1202Q	MEMORY
IC315	CXD1175AM	A/D COMVERTER
Q301	2SC2412K	CANRL +BLK
Q302	2SC2412K	ON SCREEN DISPLAY SW
Q303	2SC2412K	FAS PICTURE MUTE SW
Q304	2SC2412K	ON SCREEN DISPLAY SW
Q305	DTA144EK	ANIT PRIORITY SCART
Q306	2SC2412K	STBY SW
Q307	2SC2412K	ABL
Q308	DTC124EK	MUTE
Q310	DTC124EK	SECAM SW
Q311	DTC124EK	SECAM SW
Q320	2SC2412K	HUE BUFFER
Q321	2SA1037K	CLK AMP3
Q322	2SA1037K	CLK AMP2
Q323	2SC2412K	CLK AMP1
Q324	2SC2412K	CLK BUFFER
Q327	2SA1037K	Y OUT
Q328	2SA1037K	VIDEO IN
Q329	2SA1037K	Y IN
Q330	2SC2412K	VIDEO BUFFER
Q331	2SA1037K	C OUT
Q332	2SA1037K	C IN
Q333	DTC124EK	Y/C SW
Q334	DTC124EK	Y SW
Q335	2SC2412K	SECAM SW
Q336	2SC2412K	NTSC (3.58) SW
Q337	2SC2412K	NTSC (4.43) SW
Q338	2SA1037K	Y BUFFER
Q339	2SC2412K	Y BUFFER
Q340	2SC2412K	Y BUFFER
Q341	2SC2412K	SECAM TRAP SW
Q342	2SC2412K	NTSC TRAP SW
Q343	2SC2412K	C OUT
Q344	2SC2412K	SECAM SW
Q345	2SC2412K	PAL/SECAM SW
Q346	2SC2412K	Y IN
Q347	2SC2412K	PAL SW
Q348	DTC124EK	NTSC (3.58) SW
Q350	2SA1037KQR	CLK AMP
Q352	2SC2412K	VIDEO AMP
Q353	2SA1037KQR	BUFFER
Q354	2SA1037KQR	BUFFER
Q355	2SA1037KQR	VIDEO AMP
Q356	2SC2412K	VIDEO BUFFER
Q357	2SC2412K	CLAMP BIAS
Q358	2SA1037KQR	VIDEO CLAMP
Q359	2SC2412K	CLAMP BIAS
Q360	2SA1037KQR	CLK BUFFER
Q361	2SA1037KQR	CLK AMP
Q362	2SA1037KQR	Y BUFFER
Q363	2SA1037KQR	C BUFFER
Q364	2SC2412K	C BUFFER
Q365	2SC2412K	Y BUFFER
Q366	2SC2412K	SHP BUFFER
Q367	2SC2412K	Y BUFFER
Q368	2SC2412K	SHP AMP
Q369	2SC2412K	SHP AMP
Q370	2SC2412K	SHP AMP
Q371	2SC2412K	VM BUFFER
Q372	2SC2412K	VM AMP
Q373	DTC124EK	
Q1301	DTC124EK	Y BUFFER
Q1302	2SC2412K	Y BUFFER
Q1303	2SC2412K	VM MUTE
D301	1MN10	ACO AT ATBY
D304	DAN212K	PROTECT
D305	DAN212K	PROTECT
D307	MA3110M	PROTECT
D308	DAN212K	PROTECT
D309	DAN212K	PROTECT
D310	MA3110M	PROTECT
D311	MA3110M	PROTECT
D312	MA3110M	PROTECT
D314	DA204K	PROTECT
D318	DA204K	PROTECT
D319	DA204K	PROTECT
D320	DA204K	PROTECT
D321	MA3056	REG
D322	DAN212K	PROTECT
D330	DAN212K	BIAS
D331	DAP202K	Y/C SW
D333	1MN10	SYSTEM SW
D336	DAN202K	CORRECT SW
D340	DA204K	VIDEO AMP
D341	DAN212K	VIDEO AMP

B1 BOARD *MARK

	KV-E2521D	KV-E2921D
R343	560 Ω 1/10W	2.2k 1/10W
R1308	0 Ω 1/10W	4.7k 1/10W
B-73	OPEN	3P

SW
SW
SW
RT


1
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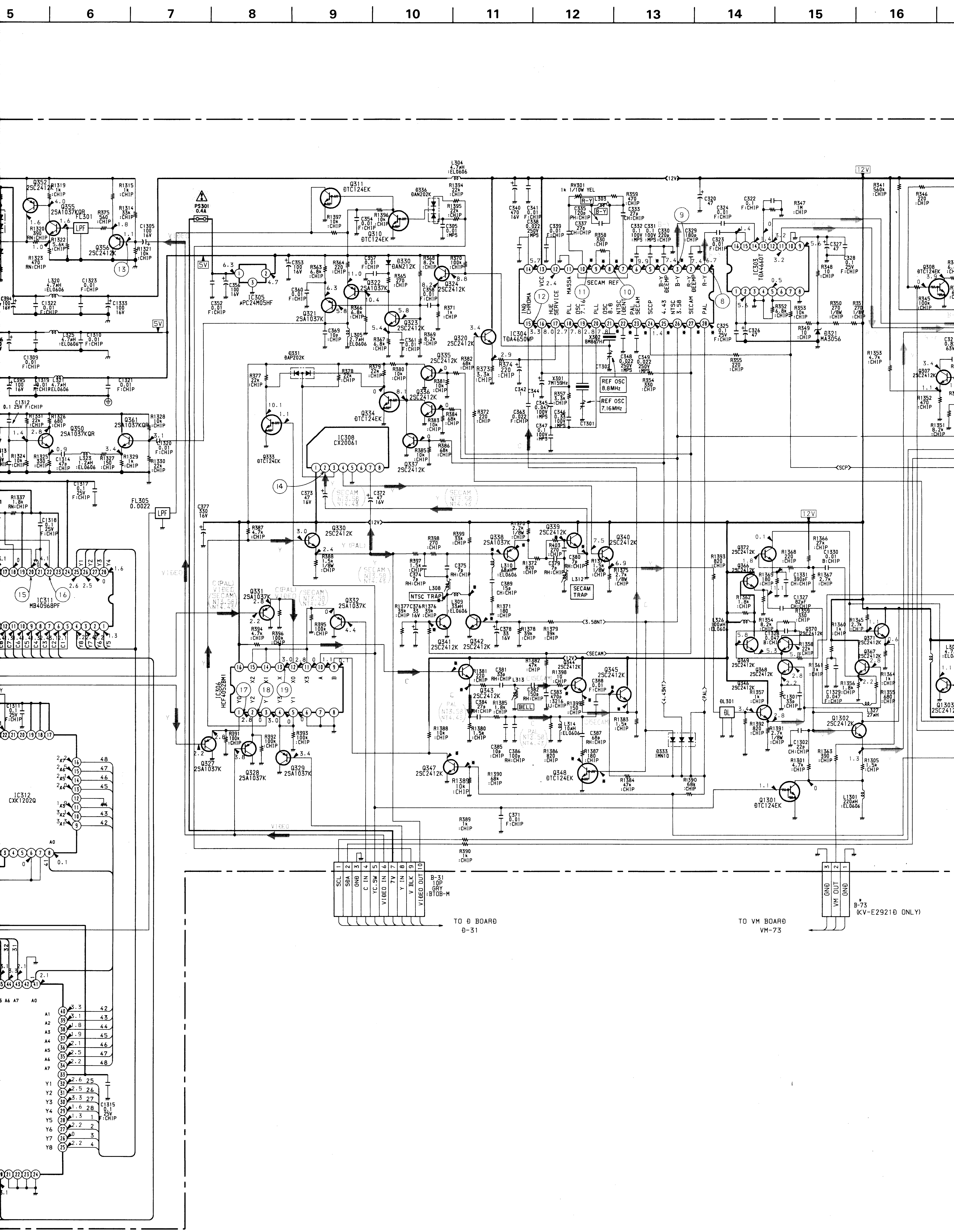
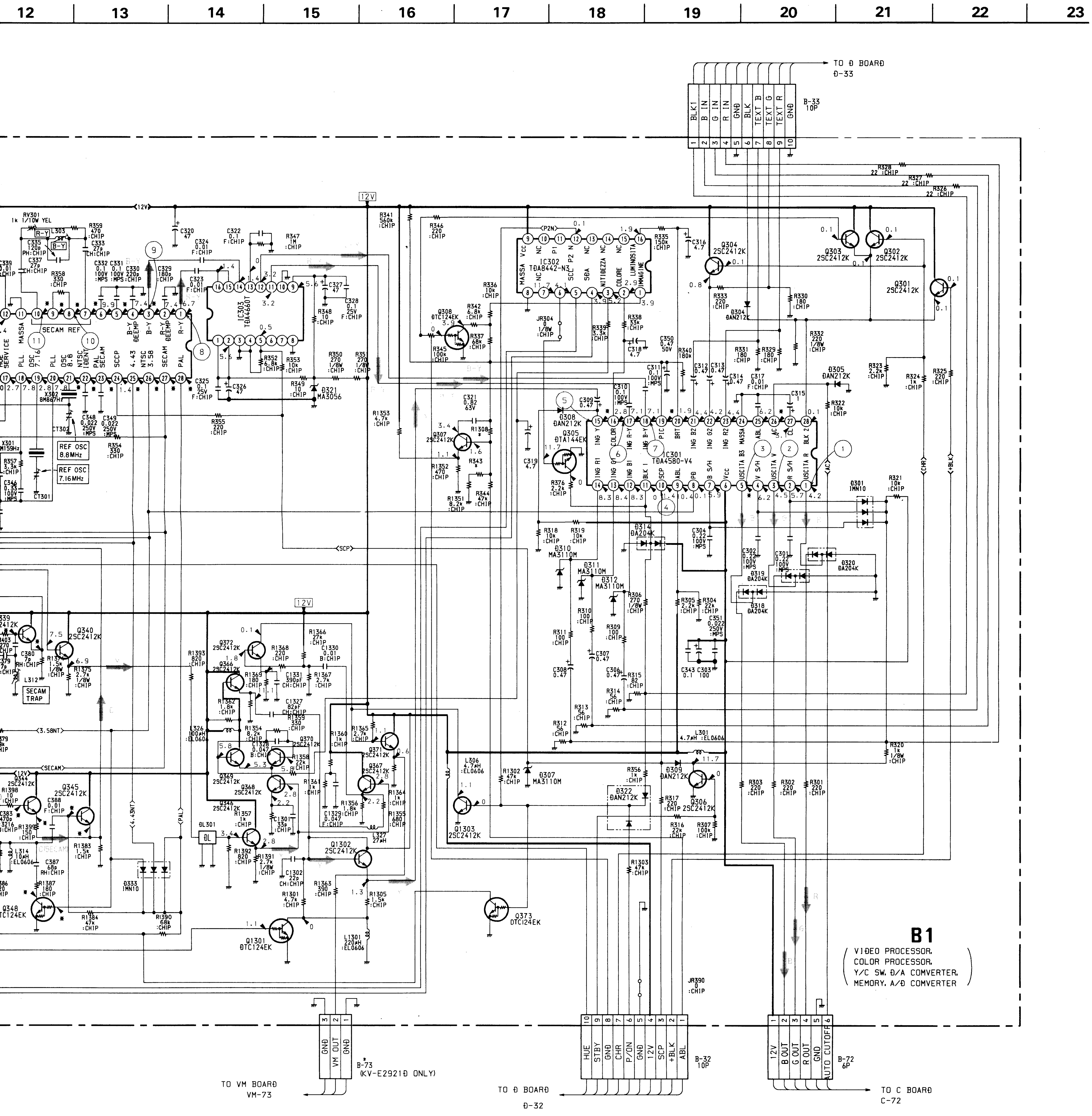
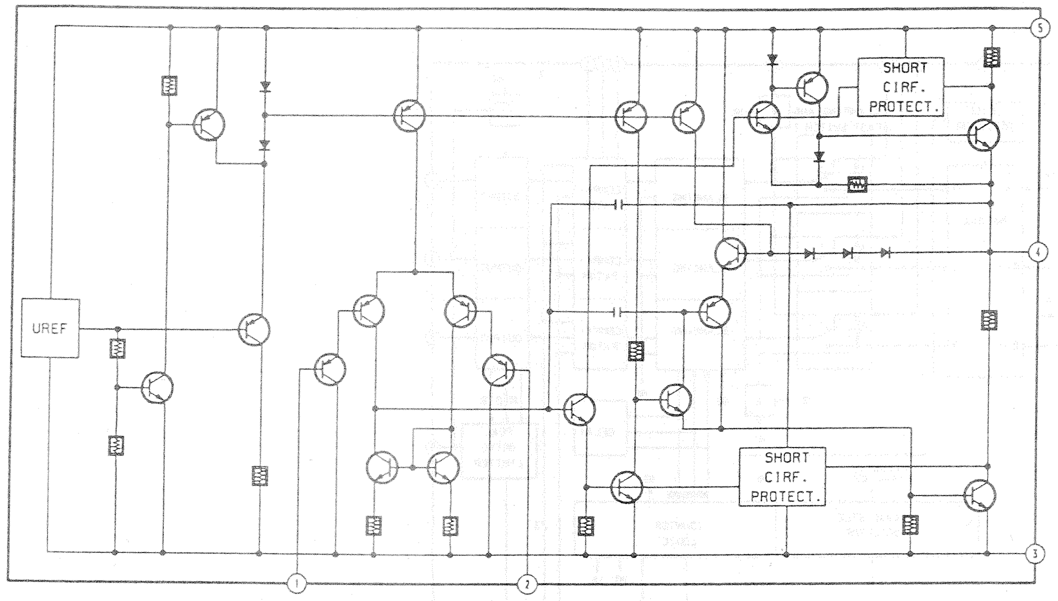
9
10
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
IC315
CXD1175AM
IC311
MB40968PF
IC313
CXK1202Q
IC312
CXK1202Q
IC310
CXD2011Q
IC305
μPC24M05HF
IC308
CX20061
IC306
HCF4052BM1
Q358
2SA1037KQR
Q354
2SA1037KQR
Q353
2SA1037KQR
Q357
2SC2412K
Q359
2SC2412K
Q352
2SC2412K
Q355
2SA1037KQR
Q356
2SC2412K
Q360
2SA1037KQR
Q350
2SA1037KQR
Q361
2SA1037KQR
Q362
2SA1037KQR
Q365
2SC2412K
Q363
2SA1037KQR
Q364
2SC2412K
Q311
DTC124EK
Q310
DTC124EK
Q322
2SA1037K
Q321
2SA1037K
Q323
2SC2412K
Q334
DTC124EK
Q333
DTC124EK
Q336
2SC2412K
Q337
2SC2412K
Q330
2SC2412K
Q331
2SA1037K
Q332
2SA1037K
Q327
2SA1037K
Q328
2SA1037K
Q329
2SA1037K
Q347
2SC2412K
Q341
2SC2412K
D340
DA204K
D341
DAN212K
D330
DAN212K
D331
DAP202K
D336
DAN202K
FL301
FL302
FL303
FL305
0.0022
LPF
PS301
0.4A
L320
4.7μH
:EL0606
L325
4.7μH
:EL0606
L323
1.2μH
:EL0606
L305
2.7μH
:EL0606
L308
NTSC TRAP
JR302
0
:CHIP
C1316
0.001 :CHIP
C1315
0.1
25V
F:CHIP
5V
12V
VIDEO
C (PAL)
VIDEO
(SECAM)
(NT3.58)
(NT4.43)
Y
Y (PAL)
C
13
14
15
16
17
18
19
B-31
10P
GRY
:BTOB-M
SCL
SDA
GND
C IN
YC.SW
VIDEO IN
7V
Y IN
V BLK
VIDEO OUT
A0 A1 A2 A3 A4 A5 A6 A7
D1
D2
D3
D4
D5
D6
D7
D8
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8
C1
C2
C3
C4
C5
C6
C7
C8

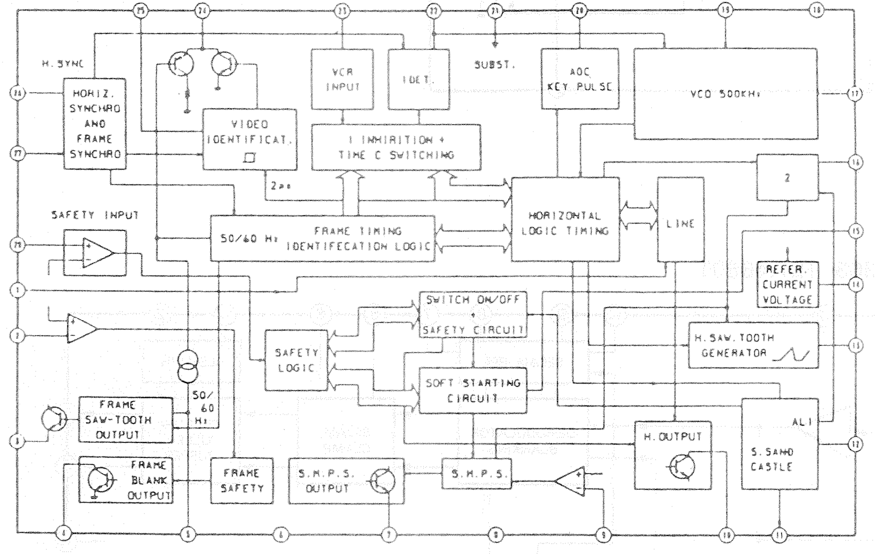

5
6
7
8
9
10
11
12
13
14
15
16
IC304 TDA4650WP
VCC
CHROMA
HUE SERVICE
MASSA
PLL
OSC 7.16
OSC 8.8
NTSC IDENT
PAL SECAM
SCCP
4.43
NTSC 3.58
SECAM
PAL
B-Y DEEMP
R-Y DEEMP
SECAM REF
REF OSC 8.8MHz
REF OSC 7.16MHz
IC303 TDA4660T
IC305 μPC24M05HF
IC308 CX20061
IC306 HCF4052BM1
IC311 MB40968PF
IC312 CXK1202Q
PS301 0.4A
FL301 LPF
FL305 0.0022 LPF
NTSC TRAP
SECAM TRAP
BELL
VIDEO
Y (PAL)
C (PAL)
<12V>
<SECAM>
<3.58NT>
<4.43NT>
<PAL>
<SCP>
12V
5V
B-31 10P GRY :BTOB-M
SCL
SDA
GND
C IN
YC.SW
VIDEO IN
7V
V BLK
V
VIDEO OUT
TO D BOARD D-31
TO VM BOARD VM-73
GND
VM OUT
GND
B-73 (KV-E2921D ONLY)


12
13
14
15
16
17
18
19
20
21
22
23
TO D BOARD
D-33
BLK1
B IN
G IN
R IN
GND
BLK
TEXT B
TEXT G
TEXT R
GND
B-33
10P
IC302
TDA8442-N3
IC303
TDA4660T
IC301
TDA4580-V4
12V
SECAM REF
REF OSC
8.8MHz
REF OSC
7.16MHz
SECAM TRAP
<SCP>
<3.58NT>
<SECAM>
<4.43NT>
<PAL>
<CHR>
<+BLK>
<AC>
B1
VIDEO PROCESSOR,
COLOR PROCESSOR,
Y/C SW, D/A CONVERTER,
MEMORY, A/D CONVERTER
GND
VM OUT
GND
B-73
(KV-E2921D ONLY)
TO VM BOARD
VM-73
HUE
STBY
GND
CHR
P/ON
GND
12V
SCP
+BLK
ABL
B-32
10P
TO D BOARD
D-32
12V
B OUT
G OUT
R OUT
GND
AUTO CUTOFF
B-72
6P
TO C BOARD
C-72

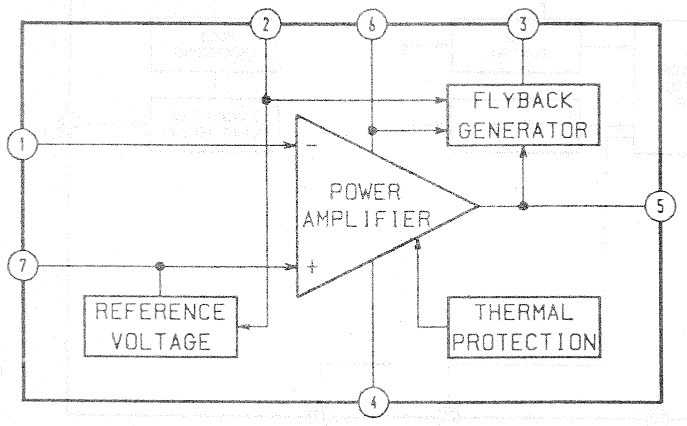
D BOARD IC251／261 TDA2050


SHORT CIRF. PROTECT.
UREF
SHORT CIRF. PROTECT.
5
4
3
1
2

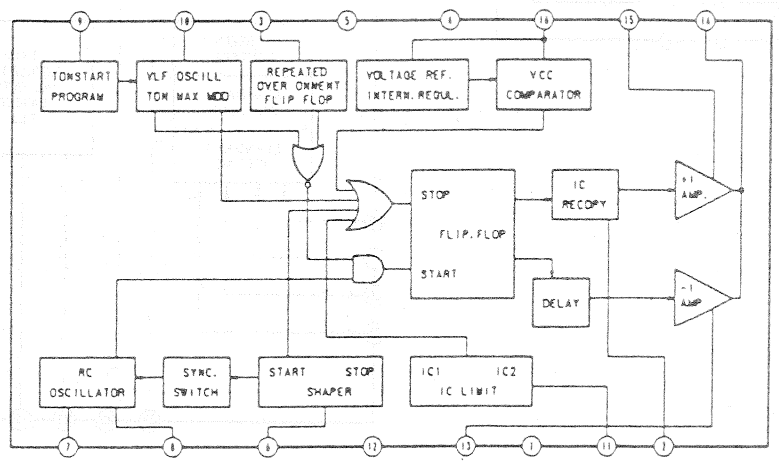
D BOARD IC501 TEA2028B


H. SYNC
HORIZ. SYNCHRO AND FRAME SYNCHRO
VIDEO IDENTIFICAT.
VCR INPUT
IDET.
SUBST.
AOC KEY PULSE
VCO 500KHz
I INHIBITION + TIME C SWITCHING
2
SAFETY INPUT
50/60 Hz FRAME TIMING IDENTIFECATION LOGIC
HORIZONTAL LOGIC TIMING
LINE
REFER. CURRENT VOLTAGE
SWITCH ON/OFF + SAFETY CIRCUIT
SAFETY LOGIC
H. SAW. TOOTH GENERATOR
SOFT STARTING CIRCUIT
50/60 Hz
FRAME SAW-TOOTH OUTPUT
H. OUTPUT
ALI
S. SAND CASTLE
FRAME BLANK OUTPUT
FRAME SAFETY
S.M.P.S. OUTPUT
S.M.P.S.

D BOARD IC502 TDA8170


2
6
3
1
7
5
4
FLYBACK GENERATOR
POWER AMPLIFIER
REFERENCE VOLTAGE
THERMAL PROTECTION

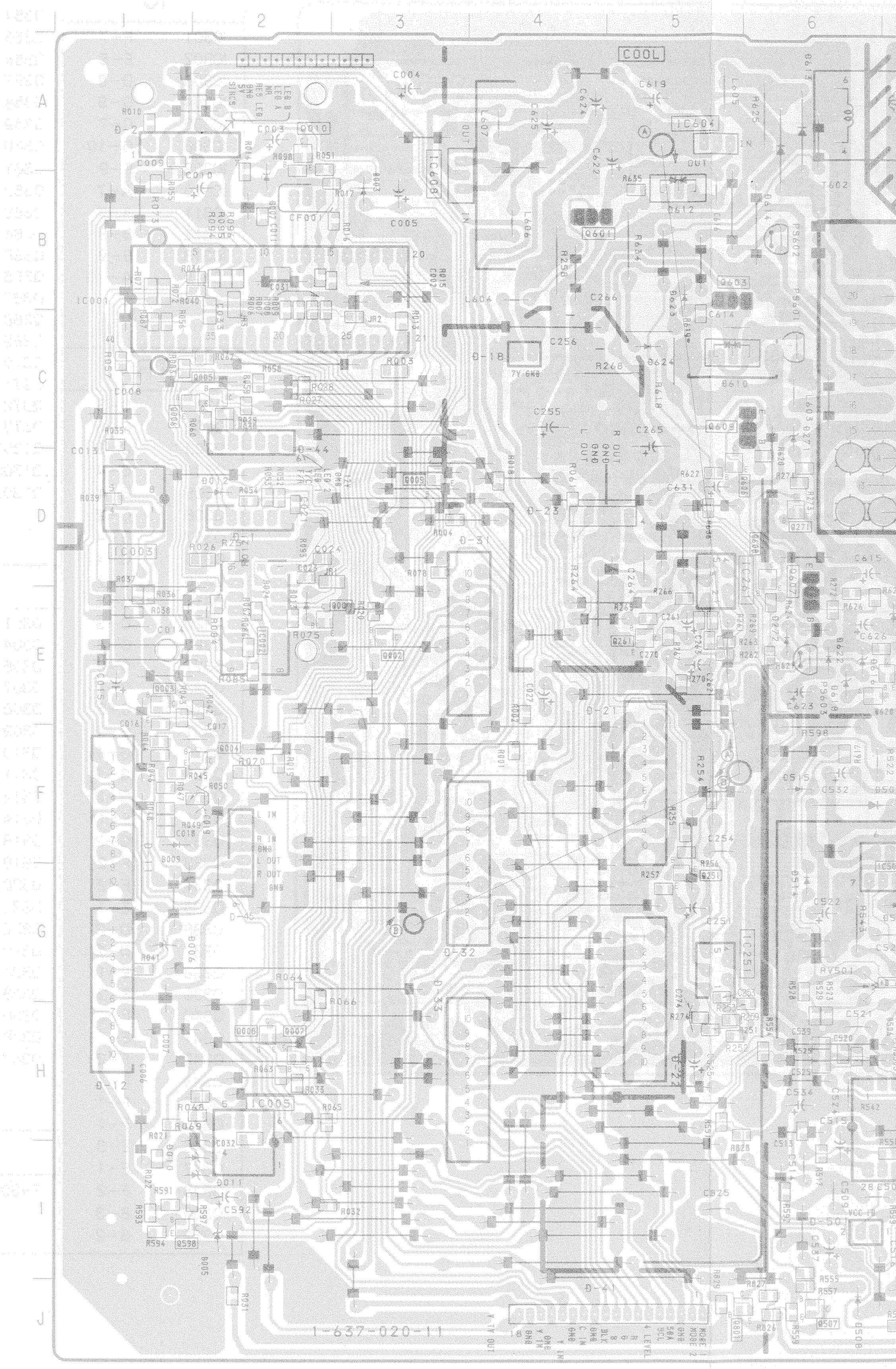
D BOARD IC601 TEA2260

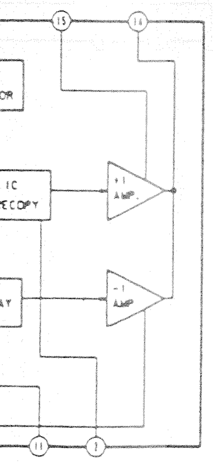

TONSTART PROGRAM
YLF OSCILL TON MAX MOD
REPEATED OVER ONMENT FLIP FLOP
VOLTAGE REF. INTERN. REGUL.
VCC COMPARATOR
STOP
FLIP. FLOP
START
IC RECOPY
+1 AMP.
DELAY
-1 AMP
RC OSCILLATOR
SYNC. SWITCH
START STOP SHAPER
IC1 IC2 IC LIMIT

D [TUNING CONTROL, POWER CONTROL, AUDIO OUT, H/V OUT]

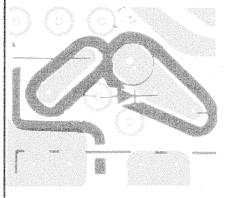
IC			
IC001	B-2	D010	I-2
IC002	E-2	D011	I-2
IC003	D-1	D012	D-2
IC005	H-2	D013	E-2
IC251	G-5	D271	C-6
IC261	D-5	D272	E-6
IC501	H-7	D501	I-8
IC502	G-7	D504	F-6
IC601	A-8	D506	H-7
IC604	A-5	D508	J-6
IC608	B-3	D509	F-7
		D511	G-7
		D512	G-7
		D513	G-7
		D514	G-6
		D515	F-6
TR		D601	A-8
		D602	C-8
Q001	E-2	D603	A-7
Q002	E-3	D604	A-7
Q003	E-1	D605	C-8
Q004	F-2	D606	C-8
Q005	C-2	D607	B-8
Q006	C-1	D608	C-9
Q007	H-2	D609	B-8
Q008	H-2	D610	C-5
Q009	D-3	D611	E-7
Q010	A-2	D612	B-5
Q251	G-5	D613	A-6
Q261	E-5	D614	A-6
Q271	D-6	D616	E-6
Q502	H-7	D617	B-7
Q505	F-7	D618	E-6
Q506	F-7	D619	B-8
Q507	J-6	D620	E-6
Q598	I-2	D621	B-8
Q601	B-4	D622	E-6
Q602	C-10	D623	B-5
Q603	B-5	D624	C-5
Q604	A-7	D630	E-7
Q605	E-7	D801	G-10
Q606	D-5	D802	H-12
Q607	D-6	D803	I-13
Q608	D-6	D804	F-9
Q609	C-5	D805	F-9
Q801	J-6	D806	F-12
Q804	G-13	D807	F-12
Q805	G-9	D808	E-11
D		**VR**	
D003	B-3	RV501	G-6
D005	I-2	RV502	I-8
D006	G-1	RV601	A-8
D007	B-2		
D009	F-1		

—D BOARD—


2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
COOL
IC604
IC608
IC001
IC005
IC251
1-637-020-11


15
16
OR
IC
ECOPY
+1 AMP
AY
-1 AMP
11
7

D [TUNING CONTROL, POWER CONTROL, AUDIO OUT, H/V OUT]



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

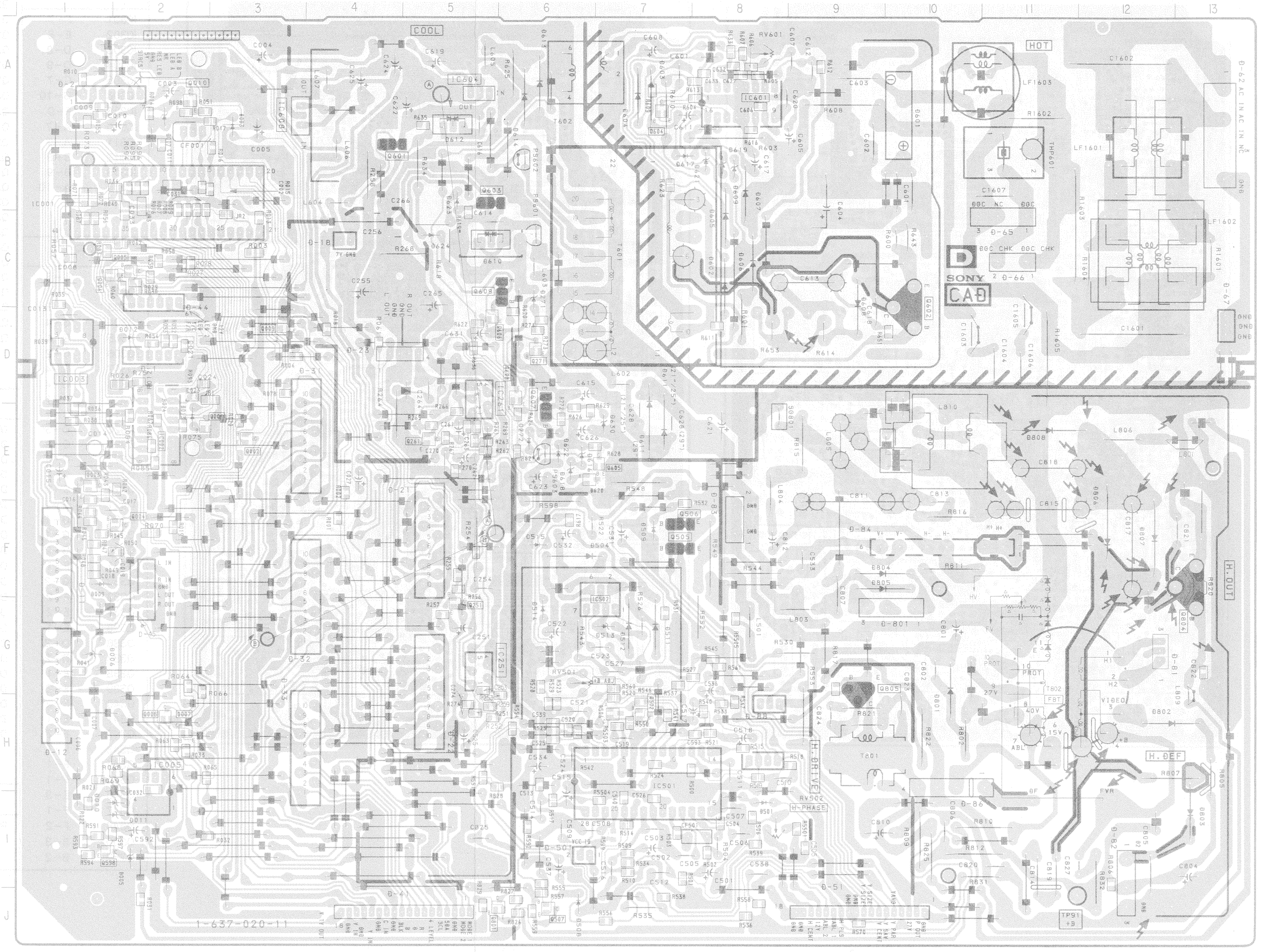
IC	
IC001	B-2
IC002	E-2
IC003	D-1
IC005	H-2
IC251	G-5
IC261	D-5
IC501	H-7
IC502	G-7
IC601	A-8
IC604	A-5
IC608	B-3

TR	
Q001	E-2
Q002	E-3
Q003	E-1
Q004	F-2
Q005	C-2
Q006	C-1
Q007	H-2
Q008	H-2
Q009	D-3
Q010	A-2
Q251	G-5
Q261	E-5
Q271	D-6
Q502	H-7
Q505	F-7
Q506	F-7
Q507	J-6
Q598	I-2
Q601	B-4
Q602	C-10
Q603	B-5
Q604	A-7
Q605	E-7
Q606	D-5
Q607	D-6
Q608	D-6
Q609	C-5
Q801	J-6
Q804	G-13
Q805	G-9

D	
D003	B-3
D005	I-2
D006	G-1
D007	B-2
D009	F-1
D010	I-2
D011	I-2
D012	D-2
D013	E-2
D271	C-6
D272	E-6
D501	I-8
D504	F-6
D506	H-7
D508	J-6
D509	F-7
D511	G-7
D512	G-7
D513	G-7
D514	G-6
D515	F-6
D601	A-8
D602	C-8
D603	A-7
D604	A-7
D605	C-8
D606	C-8
D607	B-8
D608	C-9
D609	B-8
D610	C-5
D611	E-7
D612	B-5
D613	A-6
D614	A-6
D616	E-6
D617	B-7
D618	E-6
D619	B-8
D620	E-6
D621	B-8
D622	E-6
D623	B-5
D624	C-5
D630	E-7
D801	G-10
D802	H-12
D803	I-13
D804	F-9
D805	F-9
D806	F-12
D807	F-12
D808	E-11

VR	
RV501	G-6
RV502	I-8
RV601	A-8

–D BOARD–

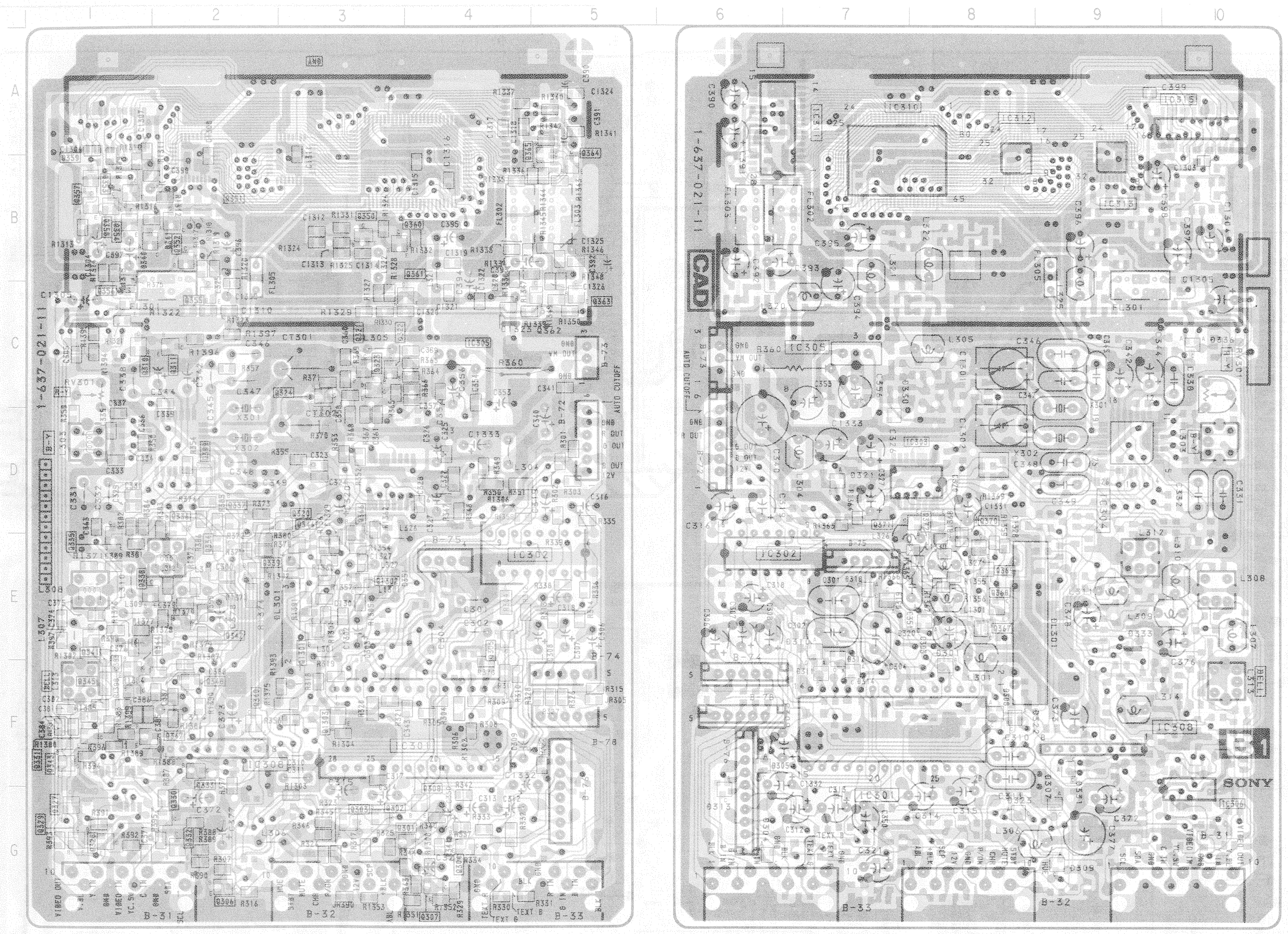

1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
COOL
HOT
IC001
IC005
IC251
IC501
IC502
IC601
IC604
IC608
T602
T601
LF1601
LF1602
LF1603
THP1601
D
SONY
CAD
H.OUT
H.DRIVE
H-PHASE
H.DEF
T801
T802
FBT
VIDEO
TP91 +B
1-637-020-11

B1 VIDEO PROCESSOR, COLOR PROCESSOR, Y/C SW, D/A COMVERTER, MEMORY, A/D COMVERTER

-B1 BOARD-

Note :

- ░ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.


2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G
1-637-021-11
CAD
B1
SONY
IC301
IC302
IC303
IC305
IC308
IC310
IC312
IC315
B-31
B-32
B-33
B-72
B-74
B-75
B-78
AUTO CUTOFF
VIDEO OUT
TEXT B

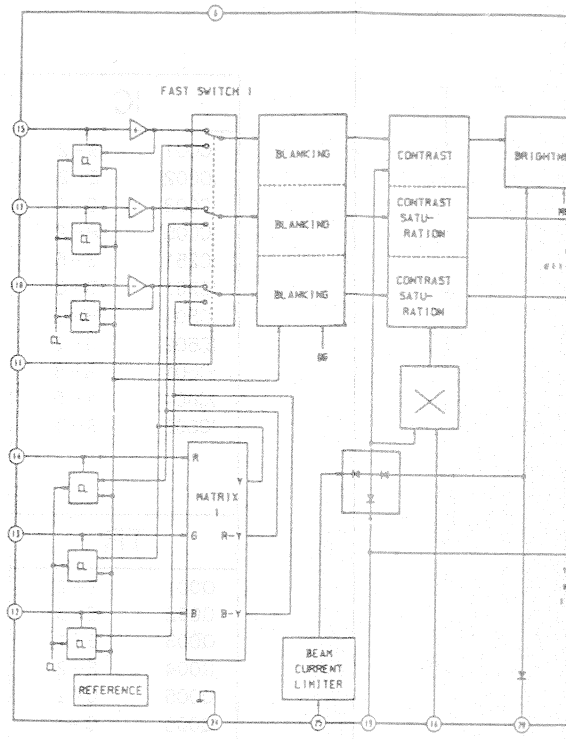
IC	
IC301	F-7
IC302	E-6
IC303	D-8
IC304	D-9
IC305	C-7
IC306	G-10
IC308	F-9
IC310	A-7
IC311	A-7
IC312	B-8
IC313	B-9
IC315	A-10

TR	
Q301	G-3
Q302	G-3
Q303	G-3
Q304	G-4
Q305	E-4
Q306	G-2
Q307	G-4
Q308	G-4
Q310	C-1
Q311	C-2
Q320	D-3
Q321	C-3
Q322	C-3
Q323	C-3
Q324	C-3
Q327	G-1
Q328	G-1
Q329	G-1
Q330	G-2
Q331	F-1
Q332	G-2
Q333	F-2
Q334	E-2
Q335	E-1
Q336	D-2
Q337	D-2
Q338	E-1
Q339	E-2
Q340	F-2
Q341	E-1
Q342	E-2
Q343	F-1
Q344	F-1
Q345	F-1
Q346	E-3
Q347	F-1
Q348	F-2
Q350	B-3
Q352	B-2
Q353	B-1
Q354	B-1
Q355	C-2
Q356	C-1
Q357	B-1
Q358	B-1
Q359	B-1
Q360	B-3
Q361	C-4
Q362	C-5
Q363	C-5
Q364	B-5
Q365	A-5
Q366	D-3
Q367	E-8
Q368	E-8
Q369	E-8
Q370	E-8
Q371	D-8
Q372	D-8
Q373	
Q1301	E-3
Q1302	E-3
Q1303	F-3

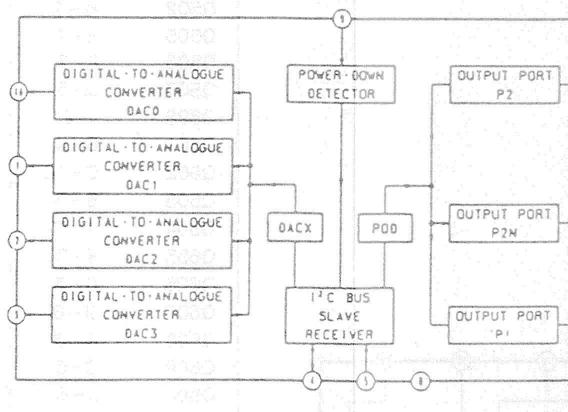
D	
D301	F-8
D304	G-6
D305	F-6
D307	G-9
D308	F-8
D309	G-9
D310	E-7
D311	F-7
D312	E-7
D314	F-7
D318	E-7
D319	E-7
D320	E-8
D321	D-7
D322	F-8
D330	D-7
D331	F-9
D333	E-9
D336	C-10
D340	B-1
D341	B-2

VR	
RV301	C-10

B1 BOARD IC301 TDA4580-V4

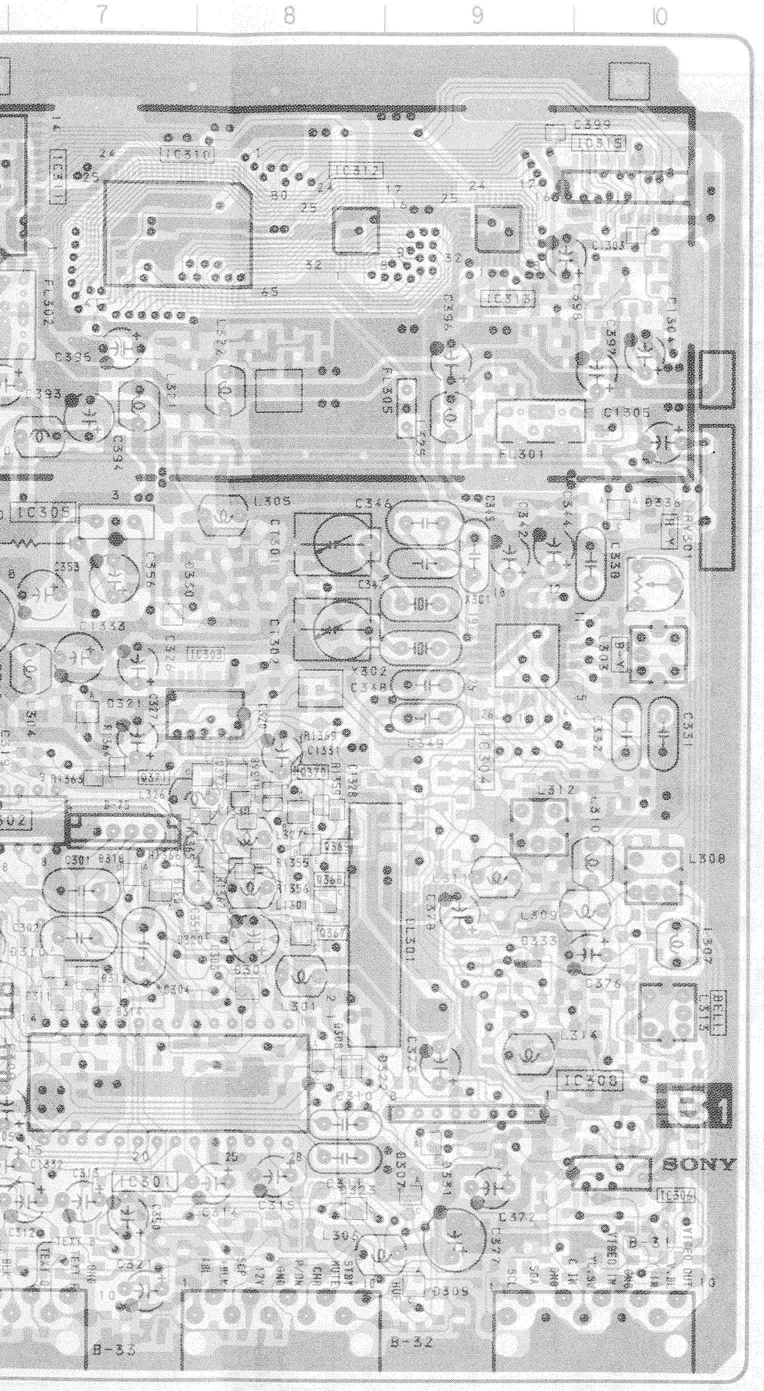

FAST SWITCH I
BLANKING
BLANKING
BLANKING
CONTRAST
CONTRAST SATU-RATION
CONTRAST SATU-RATION
BRIGHTNE
CL
MATRIX I
R
G
B
Y
R-Y
B-Y
REFERENCE
BEAM CURRENT LIMITER

B1 BOARD IC302 TDA8442-N3


DIGITAL-TO-ANALOGUE CONVERTER DAC0
DIGITAL-TO-ANALOGUE CONVERTER DAC1
DIGITAL-TO-ANALOGUE CONVERTER DAC2
DIGITAL-TO-ANALOGUE CONVERTER DAC3
POWER-DOWN DETECTOR
DACX
POD
I²C BUS SLAVE RECEIVER
OUTPUT PORT P2
OUTPUT PORT P2N
OUTPUT PORT P1

Note :

- ░░ : Pattern from the side which enables seeing.
- ░░ : Pattern of the rear side.


7
8
9
10
B1
SONY

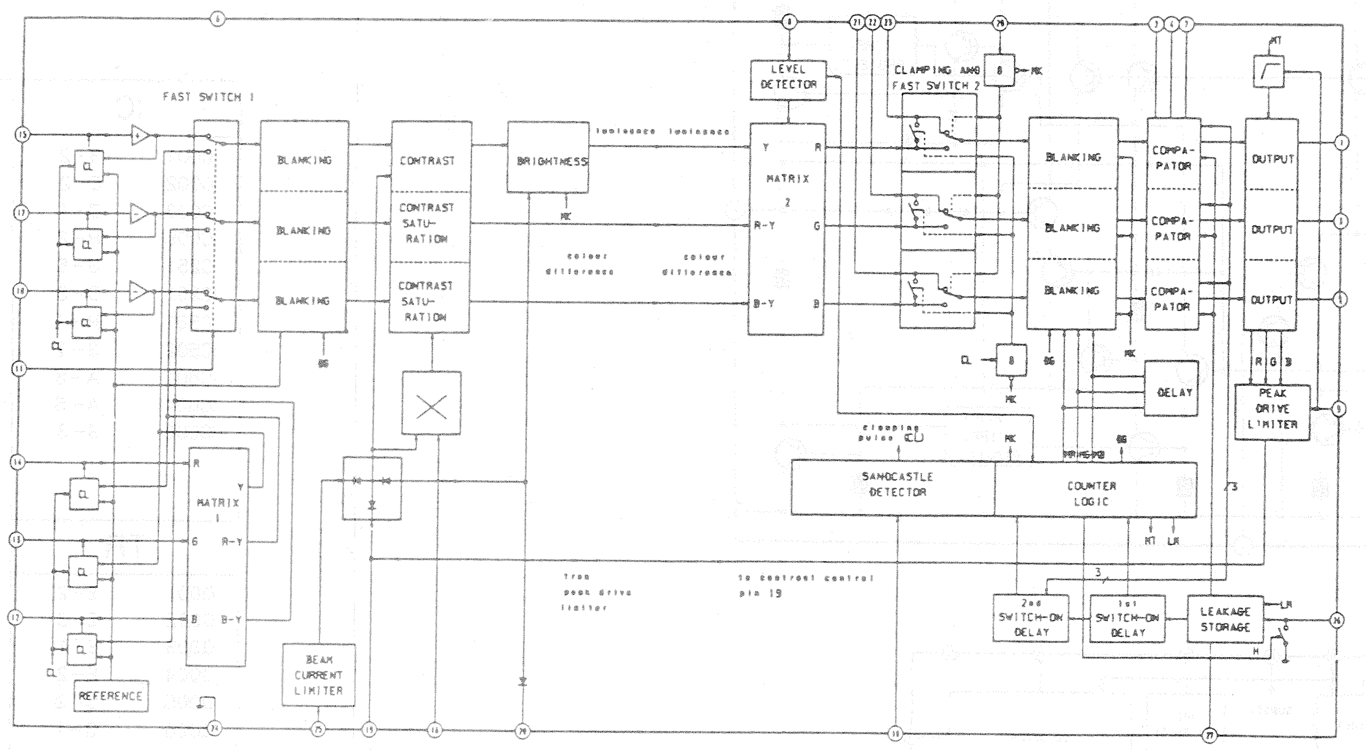
IC	
IC301	F−7
IC302	E−6
IC303	D−8
IC304	D−9
IC305	C−7
IC306	G−10
IC308	F−9
IC310	A−7
IC311	A−7
IC312	B−8
IC313	B−9
IC315	A−10

TR	
Q301	G−3
Q302	G−3
Q303	G−3
Q304	G−4
Q305	E−4
Q306	G−2
Q307	G−4
Q308	G−4
Q310	C−1
Q311	C−2
Q320	D−3
Q321	C−3
Q322	C−3
Q323	C−3
Q324	C−3
Q327	G−1
Q328	G−1
Q329	G−1
Q330	G−2
Q331	F−1
Q332	G−2
Q333	F−2
Q334	E−2
Q335	E−1
Q336	D−2
Q337	D−2
Q338	E−1
Q339	E−2
Q340	F−2
Q341	E−1
Q342	E−2
Q343	F−1
Q344	F−1
Q345	F−1
Q346	E−3
Q347	F−1
Q348	F−2
Q350	B−3
Q352	B−2
Q353	B−1
Q354	B−1
Q355	C−2
Q356	C−1
Q357	B−1
Q358	B−1
Q359	B−1
Q360	B−3
Q361	C−4
Q362	C−5
Q363	C−5
Q364	B−5
Q365	A−5
Q366	D−3
Q367	E−8
Q368	E−8
Q369	E−8
Q370	E−8
Q371	D−8
Q372	D−8
Q373	
Q1301	E−3
Q1302	E−3
Q1303	F−3

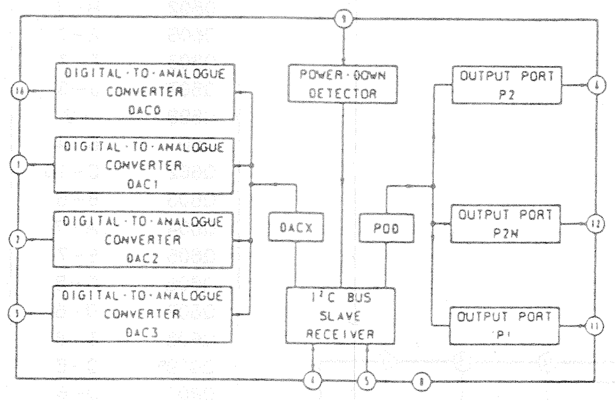
D	
D301	F−8
D304	G−6
D305	F−6
D307	G−9
D308	F−8
D309	G−9
D310	E−7
D311	F−7
D312	E−7
D314	F−7
D318	E−7
D319	E−7
D320	E−8
D321	D−7
D322	F−8
D330	D−7
D331	F−9
D333	E−9
D336	C−10
D340	B−1
D341	B−2

VR	
RV301	C−10

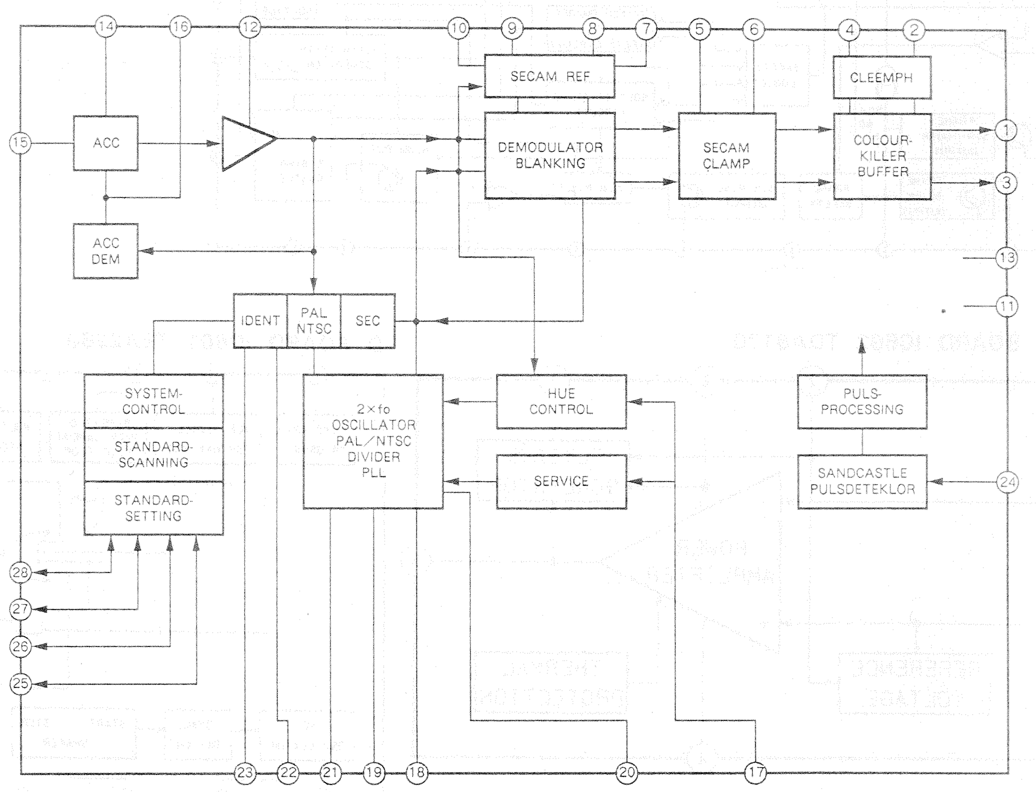
B1 BOARD IC301 TDA4580-V4


FAST SWITCH 1
CL
REFERENCE
MATRIX 1
R
G
B
Y
R−Y
B−Y
BLANKING
BLANKING
BLANKING
CONTRAST
CONTRAST SATU-RATION
CONTRAST SATU-RATION
BRIGHTNESS
BEAM CURRENT LIMITER
luminance
luminance
colour difference
colour difference
free peak drive limiter
to contrast control pin 19
LEVEL DETECTOR
MATRIX 2
R−Y
B−Y
CLAMPING AND FAST SWITCH 2
BLANKING
BLANKING
BLANKING
COMPA-RATOR
COMPA-RATOR
COMPA-RATOR
OUTPUT
OUTPUT
OUTPUT
DELAY
PEAK DRIVE LIMITER
R
G
B
clamping pulse CLI
SANDCASTLE DETECTOR
COUNTER LOGIC
2nd SWITCH-ON DELAY
1st SWITCH-ON DELAY
LEAKAGE STORAGE
3
LR
H

B1 BOARD IC302 TDA8442-N3


DIGITAL-TO-ANALOGUE CONVERTER DAC0
DIGITAL-TO-ANALOGUE CONVERTER DAC1
DIGITAL-TO-ANALOGUE CONVERTER DAC2
DIGITAL-TO-ANALOGUE CONVERTER DAC3
POWER-DOWN DETECTOR
DACX
POD
I²C BUS SLAVE RECEIVER
OUTPUT PORT P2
OUTPUT PORT P2N
OUTPUT PORT P1

B1 BOARD IC303 TDA4660T


14
16
12
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9
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7
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6
4
2
15
ACC
ACC DEM
SECAM REF
DEMODULATOR BLANKING
SECAM CLAMP
CLEEMPH
COLOUR-KILLER BUFFER
1
3
13
11
IDENT
PAL NTSC
SEC
SYSTEM-CONTROL
STANDARD-SCANNING
STANDARD-SETTING
2×fo OSCILLATOR PAL/NTSC DIVIDER PLL
HUE CONTROL
SERVICE
PULS-PROCESSING
SANDCASTLE PULSDETEKTOR
24
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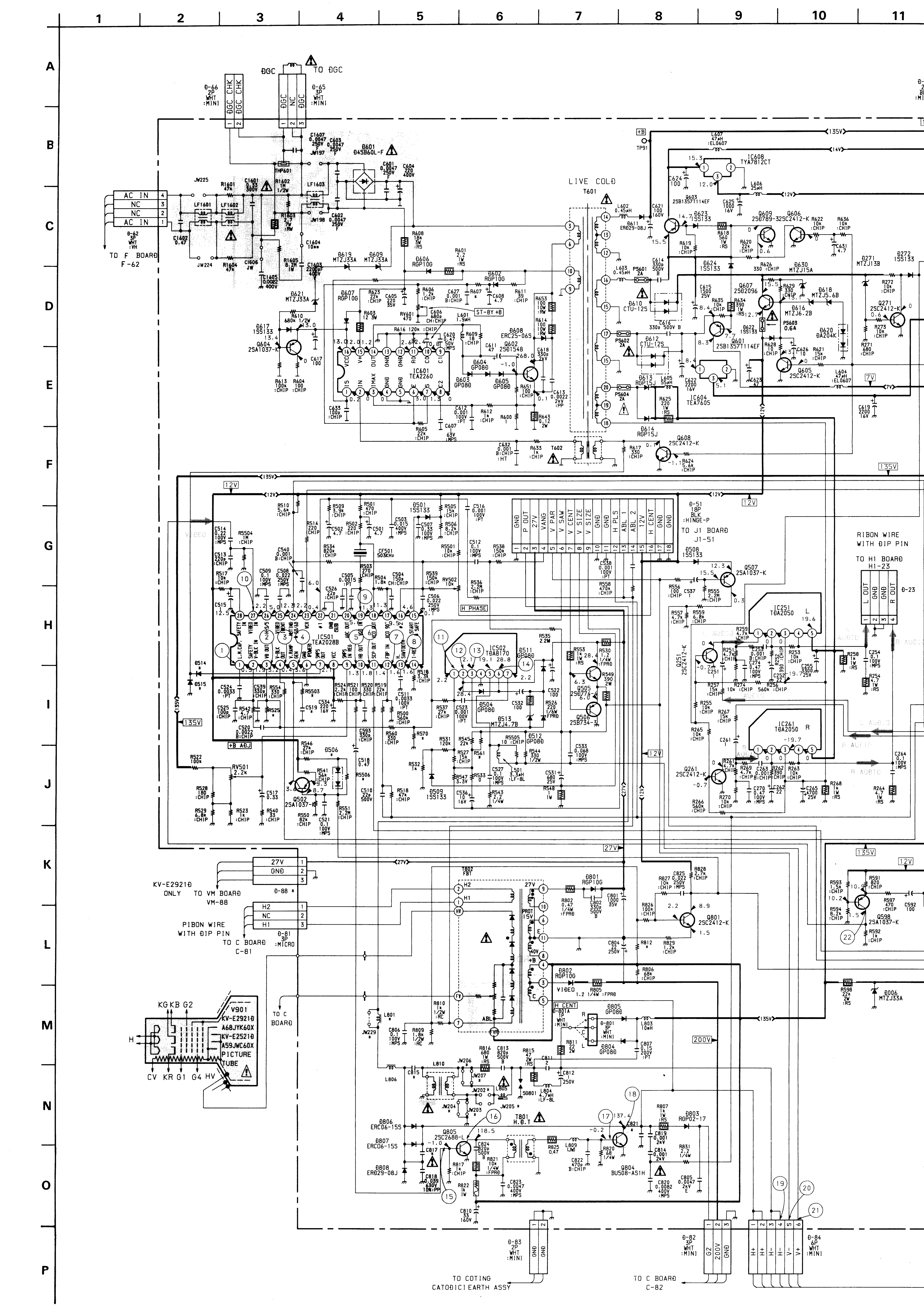
17


1
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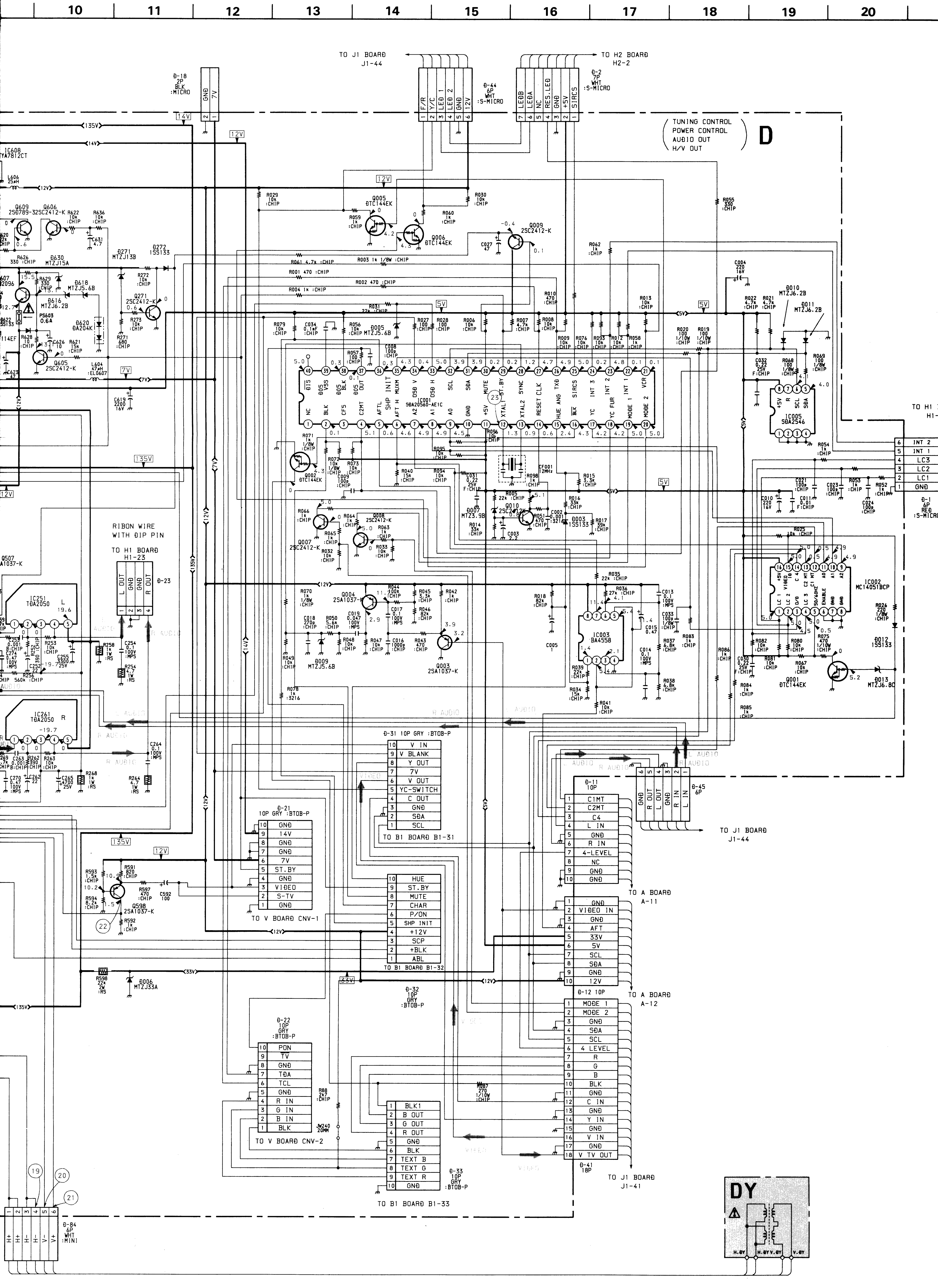
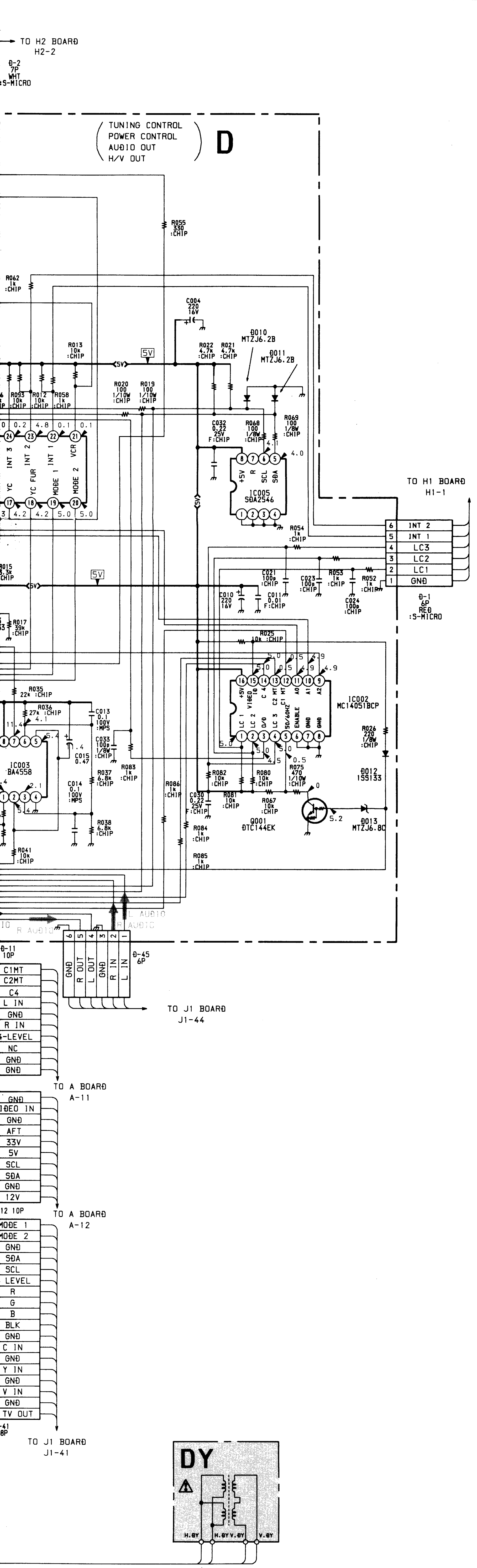
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
ĐGC
TO ĐGC
Đ-66 2P WHT :MINI
ĐGC CHK
Đ-65 3P WHT :MINI
ĐGC
NC
AC IN
NC
NC
AC IN
Đ-62 3P WHT :VH
TO F BOARD F-62
Đ601 Đ4SB60L-F
THP601
LF1601
LF1602
LF1603
LIVE COLD
T601
IC608 TYA7812CT
IC601 TEA2260
ST-BY +B
IC604 TEA7605
Q601 2SB1357T114EF
Q602 2SD1548
Q604 2SA1037-K
Q605 2SC2412-K
Q606 2SC2412-K
Q607 2SD2096
Q608 2SC2412-K
Q609 2SD789-32
Q271 2SC2412-K
135V
14V
12V
7V
+B
TP91
IC501 TEA2028B
CF501 503KHz
IC502 TDA8170
H PHASE
+B ADJ
Q502 2SA1037-K
Q505 2SD774-4
Q506 2SB734-34
Q507 2SA1037-K
Đ-51 18P BLK :HINGE-P
TO J1 BOARD J1-51
GND
P OUT
27V
VANG
V PAR
V SAW
V CENT
V SIZE
V SIZE
GND
H PLS
ABL 1
ABL 2
12V
H CENT
GND
GND
IC251 TDA2050
IC261 TDA2050
Q251 2SC2412-K
Q261 2SC2412-K
RIBON WIRE WITH DIP PIN
TO H1 BOARD H1-23
L OUT
GND
GND
R OUT
Đ-23
L AUDIO
R AUDIO
KV-E29210 ONLY
TO VM BOARD VM-88
27V
GND
Đ-88
PIBON WIRE WITH DIP PIN
TO C BOARD C-81
H2
NC
H1
Đ-81 3P :MICRO
T802 FBT
27V
PROT 15V
40V
VIDEO
H CENT
ABL
FV
Q801 2SC2412-K
Đ-801A 1P WHT :MINI
Đ-801 3P WHT :MINI
200V
TO C BOARD
V901
KV-E29210
A68JYK60X
KV-E25210
A59JWC60X
PICTURE TUBE
KG KB G2
H
CV KR G1 G4 HV
T801 H.D.T
Q805 2SC2688-L
Q804 BU508-A51H
Q598 2SA1037-K
Đ-83 2P WHT :MINI
GND
GND
TO COTING CATODIC EARTH ASSY
Đ-82 3P WHT :MINI
G2
200V
GND
TO C BOARD C-82
H+
H+
H-
H-
V-
V+
Đ-84 6P WHT :MINI

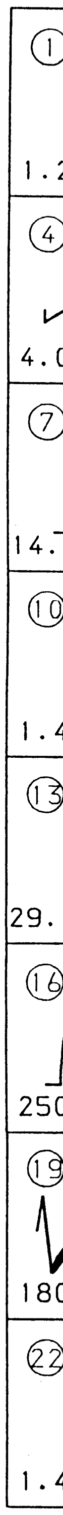

10
11
12
13
14
15
16
17
18
19
20
TO J1 BOARD
J1-44
TO H2 BOARD
H2-2
D-44 6P WHT :S-MICRO
D-2 7P WHT :S-MICRO
D-18 2P BLK :MICRO
F/R
Y/C
LED 1
LED 2
GND
12V
LEDB
LEDA
NC
RES.LED
GND
+5V
SIRCS
TUNING CONTROL
POWER CONTROL
AUDIO OUT
H/V OUT
D
IC608 TYA7812CT
Q005 DTC144EK
Q006 DTC144EK
Q009 2SC2412-K
IC001 SDA20560-AE1C
IC005 SDA2546
IC002 MC14051BCP
IC003 BA4558
Q002 DTC144EK
Q007 2SC2412-K
Q008 2SC2412-K
Q010 2SC2412-K
Q004 2SA1037-K
Q003 2SA1037-K
Q001 DTC144EK
IC251 TDA2050 L
IC261 TDA2050 R
Q598 2SA1037-K
Q271 2SC2412-K
Q605 2SC2412-K
RIBON WIRE WITH DIP PIN
TO H1 BOARD H1-23
D-23
L OUT
GND
GND
R OUT
L AUDIO
R AUDIO
TO H1
INT 2
INT 1
LC3
LC2
LC1
GND
D-1 6P RED :S-MICRO
D-31 10P GRY :BTOB-P
V IN
V BLANK
Y OUT
7V
V OUT
YC-SWITCH
C OUT
GND
SDA
SCL
TO B1 BOARD B1-31
D-21 10P GRY :BTOB-P
GND
14V
GND
GND
7V
ST.BY
GND
VIDEO
S-TV
GND
TO V BOARD CNV-1
HUE
ST.BY
MUTE
CHAR
P/ON
SHP INIT
+12V
SCP
+BLK
ABL
TO B1 BOARD B1-32
D-11 10P
C1MT
C2MT
C4
L IN
GND
R IN
4-LEVEL
NC
GND
GND
TO A BOARD A-11
GND
VIDEO IN
GND
AFT
33V
5V
SCL
SDA
GND
12V
TO A BOARD A-12
D-12 10P
D-45 6P
GND
R OUT
L OUT
GND
R IN
L IN
TO J1 BOARD J1-44
D-32 10P GRY :BTOB-P
D-22 10P GRY :BTOB-P
PON
TV
GND
TDA
TCL
GND
R IN
G IN
B IN
BLK
TO V BOARD CNV-2
BLK1
B OUT
G OUT
R OUT
GND
BLK
TEXT B
TEXT G
TEXT R
GND
D-33 10P GRY :BTOB-P
TO B1 BOARD B1-33
MODE 1
MODE 2
GND
SDA
SCL
4 LEVEL
R
G
B
BLK
GND
C IN
GND
Y IN
GND
V IN
GND
V TV OUT
D-41 18P
TO J1 BOARD J1-41
D-84 6P WHT :MINI
H+
H+
H-
V-
V+
DY
H.DY
H.DY
V.DY
V.DY
135V
14V
12V
7V
5V
33V
19
20
21
22
23


TO H2 BOARD H2-2
D-2 7P WHT :S-MICRO
TUNING CONTROL
POWER CONTROL
AUDIO OUT
H/V OUT
D
5V
IC005 SDA2546
IC002 MC14051BCP
IC003 BA4558
Q001 DTC144EK
D010 MTZJ6.2B
D011 MTZJ6.2B
D012 1SS133
D013 MTZJ6.8C
TO H1 BOARD H1-1
INT 2
INT 1
LC3
LC2
LC1
GND
D-1 6P RED :S-MICRO
L AUDIO
R AUDIO
GND
R OUT
L OUT
GND
R IN
L IN
D-45 6P
TO J1 BOARD J1-44
D-11 10P
C1MT
C2MT
C4
L IN
GND
R IN
NC
GND
TO A BOARD A-11
VIDEO IN
AFT
33V
5V
SCL
SDA
12V
TO A BOARD A-12
MODE 1
MODE 2
LEVEL
R
G
B
BLK
C IN
Y IN
V IN
TV OUT
TO J1 BOARD J1-41
DY
H.DY
V.DY

D BOARD

IC001	SDA20560	TUNING CTL
IC002	MC14051BCP	ON SCREEN DISPLAY
IC003	BA4558	AFT CONPARATORE
IC005	SDA2546	MY MEMORY
IC251	TDA2050	AUDIO OUT (L)
IC261	TDA2050	AUDIO OUT (R)
IC501	TEA2028B	DEFLECTION PROCESSOR
IC502	TDA8170	V OUT
IC601	TEA2260	PRIMARY SMRS CTL
IC604	TEA7605	+5V REG
IC608	TYA7812CT	+12V REG
Q001	DTC144EK	50/60Hz SW
Q002	DTA144EK	REG SW
Q003	2SA1037-K	SYNC SEPARATOR
Q004	2SA1037-K	SYNC SEPARATOR
Q005	DTC144EK	Y/C SW
Q006	DTC144EK	FRONT/REAR SW
Q007	2SC2412-K	MODE 2 SWITCH
Q008	2SC2412-K	MODE 1 SWITCH
Q009	2SC2412-K	MUTE SW
Q010	2SC2412-K	RESET
Q251	2SC2412-K	AUDIO MUTO
Q261	2SC2412-K	AUDIO MUTO
Q271	2SC2412-K	VOLTAGE DETECT
Q502	2SA1037-K	CONSTANT CURRENT SOURCE
Q505	2SD774	V CENT
Q506	2SB734	V CENT
Q507	2SA1037-K	CANAL +BLK
Q598	2SA1037-K	VIDEO AMP
Q601	2SB1357T114EF	STBY SW
Q602	SD1545	REG OUT
Q603	2SB1357T114EF	STBY SW
Q604	2SA1037-K	FAST ON/OFF
Q605	2SC2412-K	STBY SW
Q606	2SC2412-K	STBY SW
Q607	2SD2096-EF	+12V REG
Q608	2SC2412K	STBY SW
Q609	2SD789-3	STBY SW
Q801	2SC2412-K	ABL AMP
Q804	BU508	H OUT
Q805	2SC2688	H DRIVER
D003	1SS133	HUE CTL
D005	MTZJ5.6B	PROT
D006	MTZJ33A	VC VOLTAGE REGULATION
D007	MTZJ3.9B	PLOT RESET
D009	MTZJ5.6B	CLIPPING SYNC LEVEL
D010	MTZJ6.2B	PROT
D011	MTZJ6.2B	PROT
D012	1SS133	PROT
D013	MTZJ6.8C	PROT
D271	MTZJ13B	VOLTAGE DETECT
D272	1SS133	DECOUPING MUTE AUDIO
D501	1SS133	START
D504	GP08DPKG23	V PULSE OUT
D506	DA204K	CURRENT (KV-E2521D ONLY)
D508	1SS133	CANAL +BLK LEVEL
D509	1SS133	V LIN
D511	GP08DPKG23	PROT
D512	GP08DPKG23	PROT
D513	MTZJ4.7B	PROT
D514	1SS133	PROT (KV-E2921D ONLY)
D515	1SS133	PROT (KV-E2921D ONLY)
D601	D4SB60L-F	AC RECT
D602	RGP10GPKG23	REF RECT
D603	GP08DPKG23	SMPS DRIVE 1
D604	GP08DPKG23	SMPS DRIVE 2
D605	GP08DPKG23	SMPS DRIVE 3
D606	RGP10GPKG23	+12V RECT
D607	RGP10GPKG23	REF RECT
D608	ERC25-06S	PLUSE CLIPPER
D609	MTZJ33A	FAST ON/OFF
D610	CTU-12S	+14V RECT
D611	ERD29-08J	+135VRECT
D612	CTU-12S	+7V RECT
D613	RGP15JPKG23	AF V RECT-1
D614	RGP15JPKG23	AF V RECT-2
D616	MTZJ6.2B	+12V REG
D617	1SS133	PROT
D618	MTZJ5.6B	+12V REF
D619	MTZJ33A	FAST ON/OFF-2
D620	DA204K	+12V REF
D621	MTZJ33A	FAST ON/OFF-3
D622	1SS133	PROT
D623	1SS133	DECOUPING STBY
D624	1SS133	DECOUPING DTBY
D630	MTZJ15A	+12V REF
D801	RGP10GPKG23	+27V REF
D802	RGP10GPKG23	+200V REF
D803	RGP02-17	G2 REF
D804	GP08DPKG23	H CENTER-1
D805	GP08DPKG23	H CENTER-2
D806	ERC06-15S	H DAMPER-1
D807	ERC06-15S	H DAMPER-2
D808	ERD29-08J	PIN DAMPER

• WA


①
1.2
④
4.0
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14.7
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1.4
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250
⑲
180
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1.4

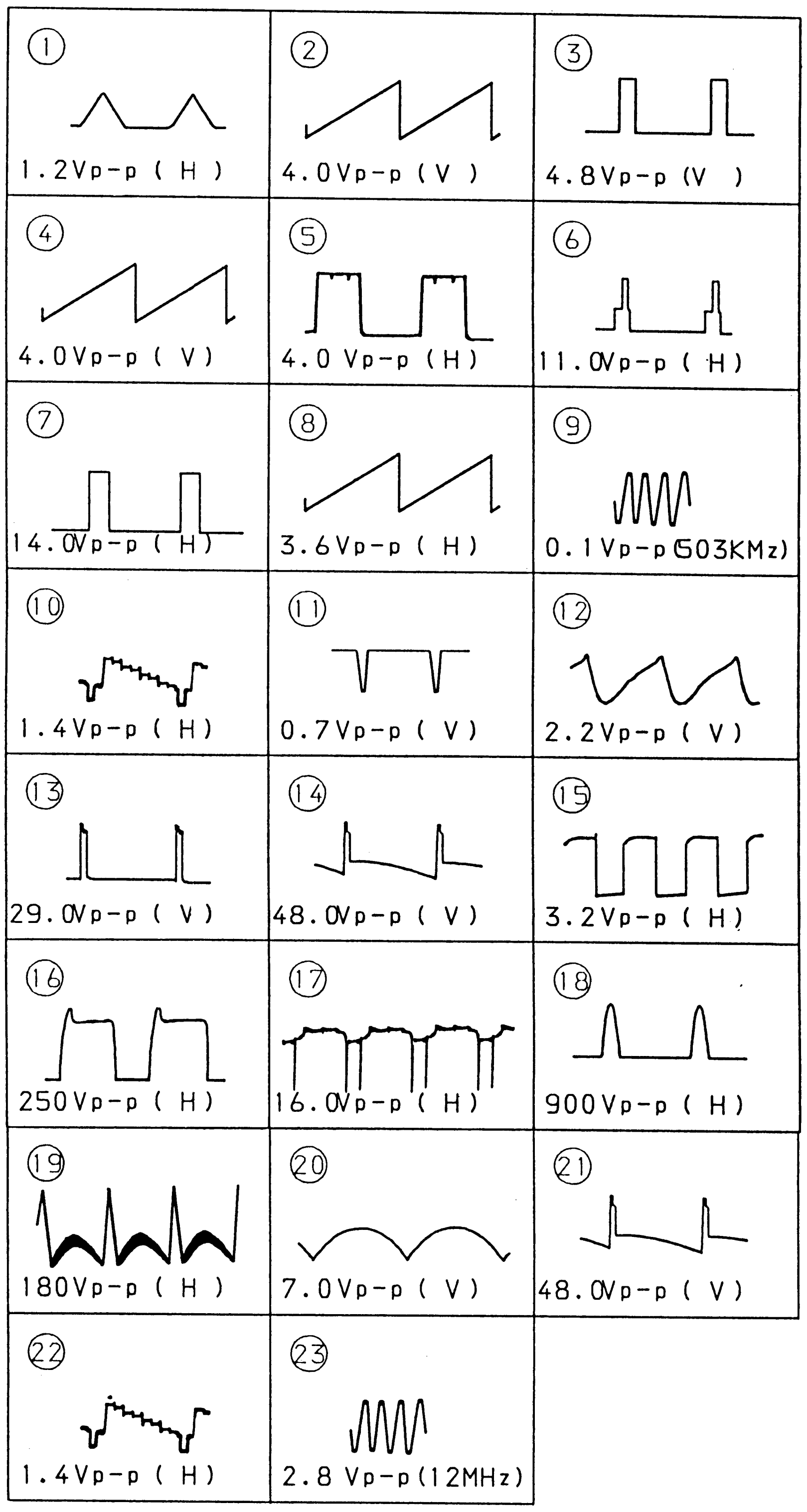
D BO

C
C
C
C
E
E
E
E
JW
JW
JW
JW
JW
JW
JW
JV
L
R
R
R
R
R
R5
R5

BOARD

A20560	TUNING CTL
14051BCP	ON SCREEN DISPLAY
4558	AFT CONPARATORE
A2546	MY MEMORY
A2050	AUDIO OUT (L)
A2050	AUDIO OUT (R)
A2028B	DEFLECTION PROCESSOR
A8170	V OUT
A2260	PRIMARY SMRS CTL
A7605	+5V REG
A7812CT	+12V REG
C144EK	50/60Hz SW
A144EK	REG SW
A1037-K	SYNC SEPARATOR
A1037-K	SYNC SEPARATOR
C144EK	Y/C SW
C144EK	FRONT/REAR SW
C2412-K	MODE 2 SWITCH
C2412-K	MODE 1 SWITCH
C2412-K	MUTE SW
C2412-K	RESET
C2412-K	AUDIO MUTO
C2412-K	AUDIO MUTO
C2412-K	VOLTAGE DETECT
A1037-K	CONSTANT CURRENT SOURCE
D774	V CENT
B734	V CENT
A1037-K	CANAL +BLK
A1037-K	VIDEO AMP
B1357T114EF	STBY SW
1545	REG OUT
B1357T114EF	STBY SW
A1037-K	FAST ON/OFF
C2412-K	STBY SW
C2412-K	STBY SW
D2096-EF	+12V REG
C2412K	STBY SW
D789-3	STBY SW
C2412-K	ABL AMP
508	H OUT
C2688	H DRIVER
SS133	HUE CTL
TZJ5.6B	PROT
TZJ33A	VC VOLTAGE REGULATION
TZJ3.9B	PLOT RESET
TZJ5.6B	CLIPPING SYNC LEVEL
TZJ6.2B	PROT
TZJ6.2B	PROT
SS133	PROT
TZJ6.8C	PROT
TZJ13B	VOLTAGE DETECT
SS133	DECOUPING MUTE AUDIO
SS133	START
P08DPKG23	V PULSE OUT
A204K	CURRENT (KV-E2521D ONLY)
SS133	CANAL +BLK LEVEL
SS133	V LIN
P08DPKG23	PROT
P08DPKG23	PROT
TZJ4.7B	PROT
SS133	PROT (KV-E2921D ONLY)
SS133	PROT (KV-E2921D ONLY)
4SB60L-F	AC RECT
GP10GPKG23	REF RECT
P08DPKG23	SMPS DRIVE 1
P08DPKG23	SMPS DRIVE 2
P08DPKG23	SMPS DRIVE 3
GP10GPKG23	+12V RECT
GP10GPKG23	REF RECT
RC25-06S	PLUSE CLIPPER
TZJ33A	FAST ON/OFF
TU-12S	+14V RECT
RD29-08J	+135VRECT
TU-12S	+7V RECT
GP15JPKG23	AF V RECT-1
GP15JPKG23	AF V RECT-2
TZJ6.2B	+12V REG
SS133	PROT
TZJ5.6B	+12V REF
TZJ33A	FAST ON/OFF-2
A204K	+12V REF
TZJ33A	FAST ON/OFF-3
SS133	PROT
SS133	DECOUPING STBY
SS133	DECOUPING DTBY
TZJ15A	+12V REF
GP10GPKG23	+27V REF
GP10GPKG23	+200V REF
GP02-17	G2 REF
P08DPKG23	H CENTER-1
P08DPKG23	H CENTER-2
RC06-15S	H DAMPER-1
RC06-15S	H DAMPER-2
RD29-08J	PIN DAMPER

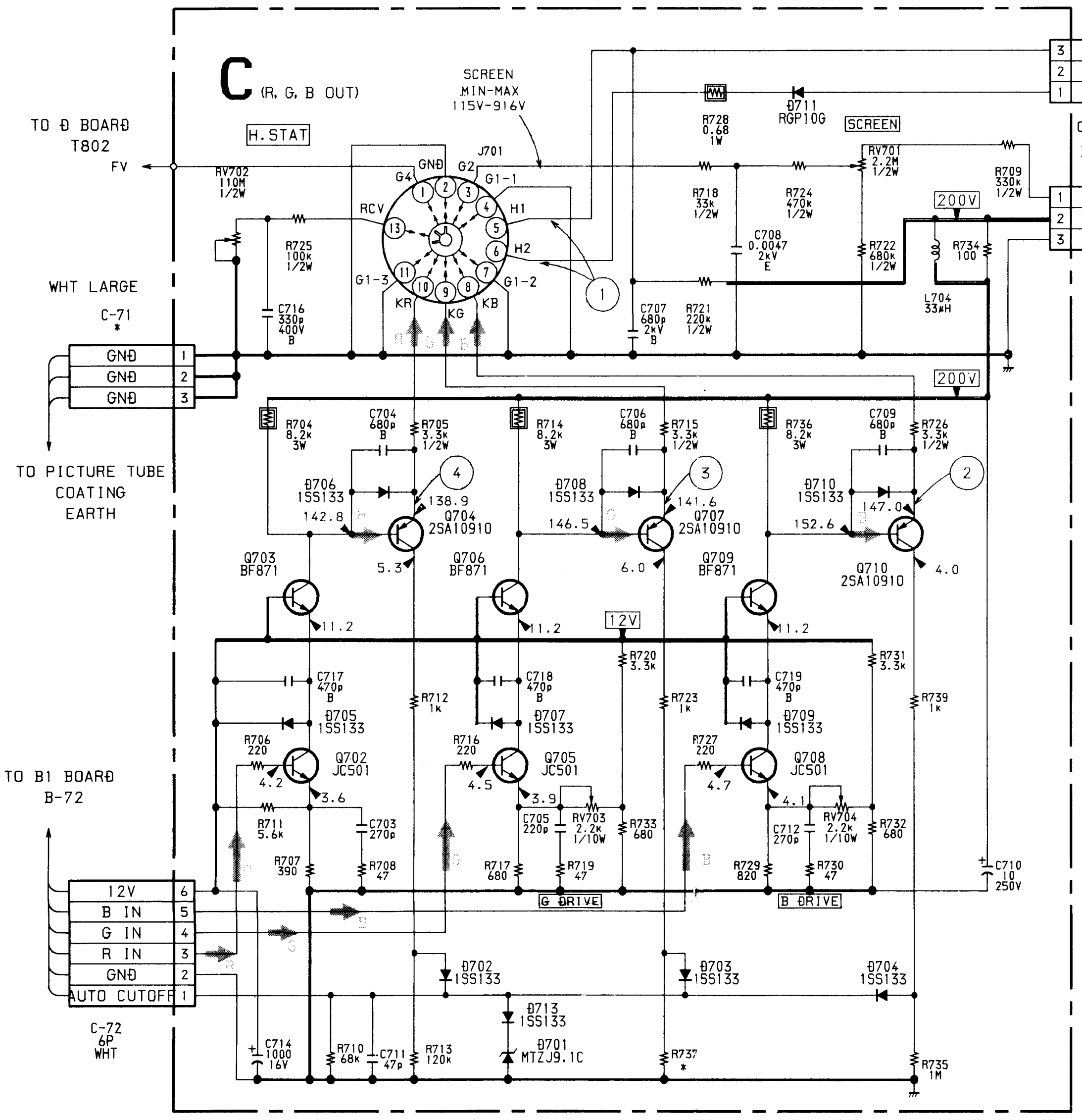
• WAVEFORMS D BOARD



D BOARD *MARK

	KV-E2521D	KV-E2921D
C519	0.47MF	0.33MF
C815	1MF	0.82MF
C817	0.015MF	0.017MF
C821	680P 2K	470P 2K
D506	DA204K	-
D514	JW	1SS133
D515	-	1SS133
D-88	-	3P
JW202	-	X
JW203	X	-
JW204	X	-
JW205	-	X
JW206	X	-
JW207	X	-
JW229	X	-
JW216	X	-
L801	-	3.9MMH
R525	1K	-
R561	-	270K
R570	-	680
R607	4.7K	5.6K
R812	68K	51K
R5503	4.7	10
R5506	-	12K

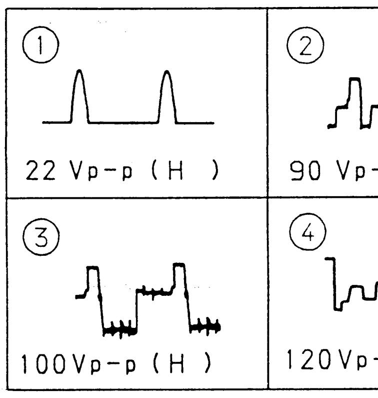
— NOT MOUNTED
× TO BE MOUNTED

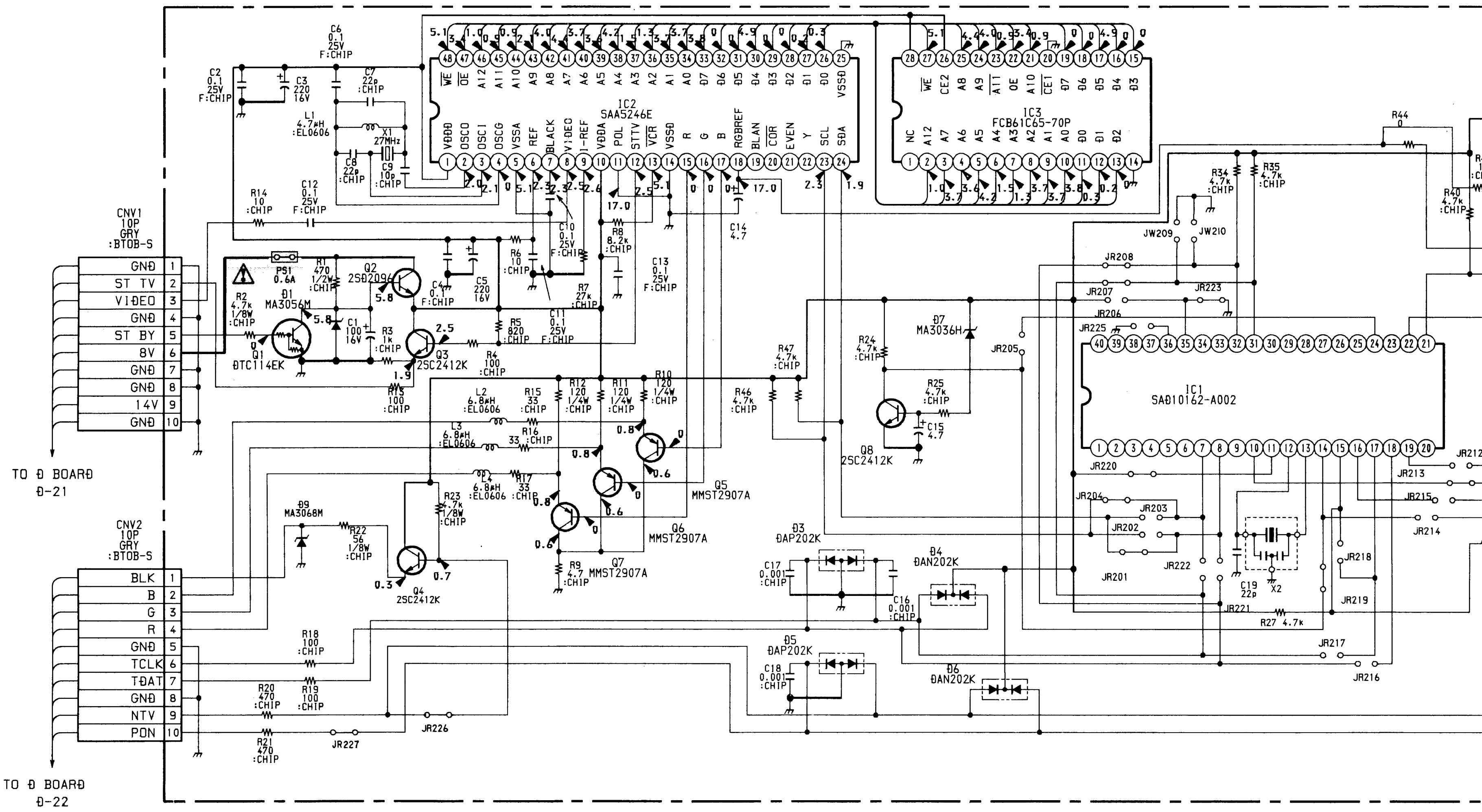

C (R, G, B OUT)
TO D BOARD T802
FV
H.STAT
SCREEN MIN-MAX 115V-916V
J701
SCREEN
RV702 110M 1/2W
R725 100k 1/2W
WHT LARGE
C-71
GND 1
GND 2
GND 3
TO PICTURE TUBE COATING EARTH
C716 330p 400V B
RV701 2.2M 1/2W
R709 330k 1/2W
200V
R728 0.68 1W
D711 RGP10G
R718 33k 1/2W
C708 0.0047 2kV E
R724 470k 1/2W
R722 680k 1/2W
R734 100
L704 33uH
C707 680p 2kV B
R721 220k 1/2W
C-81 3P BLK
H1
NC
H2
TO D BOARD D-81
G2
200V
GND
C-82 3P WHT
TO D BOARD D-82
R704 8.2k 3W
C704 680p B
R705 3.3k 1/2W
R714 8.2k 3W
C706 680p B
R715 3.3k 1/2W
R736 8.2k 3W
C709 680p B
R726 3.3k 1/2W
D706 1SS133
Q704 2SA10910
D708 1SS133
Q707 2SA10910
D710 1SS133
Q710 2SA10910
Q703 BF871
Q706 BF871
Q709 BF871
12V
R720 3.3k
R731 3.3k
C717 470p B
D705 1SS133
R712 1k
C718 470p B
D707 1SS133
R723 1k
C719 470p B
D709 1SS133
R739 1k
Q702 JC501
Q705 JC501
Q708 JC501
R706 220
R716 220
R727 220
R711 5.6k
C703 270p
C705 220p
RV703 2.2k 1/10W
R733 680
C712 270p
RV704 2.2k 1/10W
R732 680
R707 390
R708 47
R717 680
R719 47
R729 820
R730 47
C710 10 250V
G DRIVE
B DRIVE
TO B1 BOARD B-72
12V 6
B IN 5
G IN 4
R IN 3
GND 2
AUTO CUTOFF 1
C-72 6P WHT
D702 1SS133
D703 1SS133
D704 1SS133
D713 1SS133
D701 MTZJ9.1C
C714 1000 16V
R710 68k
C711 47p
R713 120k
R737
R735 1M

C BOARD

Q702	JC501	R D
Q703	DF871	R O
Q704	2SA10910	ACO
Q705	JC501	G D
Q706	BF871	G O
Q707	2SA10910	ACO
Q708	JC501	B D
Q709	BF871	B O
Q710	2SA10910	ACO
D701	MTZJ9.1C	PRO
D702	1SS133	PRO
D703	1SS133	PRO
D704	1SS133	PRO
D705	1SS133	PRO
D706	1SS133	PRO
D707	1SS133	PRO
D708	1SS133	PRO
D709	1SS133	PRO
D710	1SS133	PRO
D711	RGP10G	HEA
D713	1SS133	PRO

- **WAVEFORMS C BOARD**


①
22 Vp-p (H)
②
90 Vp-
③
100Vp-p (H)
④
120Vp-


IC2 SAA5246E
IC3 FCB61C65-70P
IC1 SAD10162-A002
CNV1 10P GRY :BTOB-S
GND 1
ST TV 2
VIDEO 3
GND 4
ST BY 5
8V 6
GND 7
GND 8
14V 9
GND 10
TO D BOARD D-21
CNV2 10P GRY :BTOB-S
BLK 1
B 2
G 3
R 4
GND 5
TCLK 6
TDAT 7
GND 8
NTV 9
PON 10
TO D BOARD D-22
PS1 0.6A
D1 MA3056M
Q1 DTC114EK
Q2 2SD2096
Q3 2SC2412K
Q4 2SC2412K
Q5 MMST2907A
Q6 MMST2907A
Q7 MMST2907A
Q8 2SC2412K
D3 DAP202K
D4 DAN202K
D5 DAP202K
D6 DAN202K
D7 MA3036H
D9 MA3068M
X1 27MHz
X2
JR226
JR227

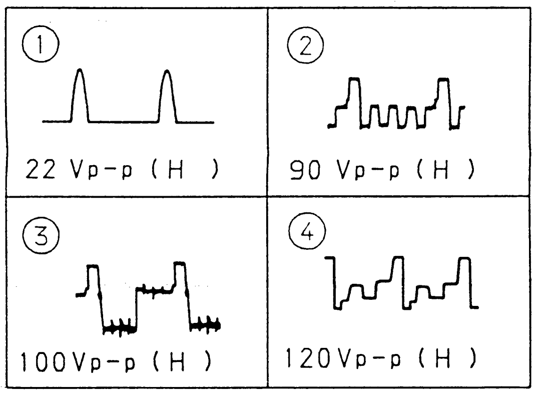
V BOARD

IC1	SDA20162-A002	MICRO-CONT
IC2	SAA5246E	IVT
IC3	FCB61C65-70P	STATIC-RAM
Q1	DTC114EK	STAND BY
Q2	2SD2096	5V REG
Q3	2SC2412K	SYNC BUFFER
Q4	2SC2712K	BLK OUT
Q5	MMST2907A	B OUT
Q6	MMST2907A	G OUT
Q7	MMST2907A	R OUT
Q8	2SC2412K	PON SW
D1	MA3056M	5V REG
D3	DAP202K	PROTECT
D4	DAN202K	PROTECT
D5	DAP202K	PROTECT
D6	DAN202K	PROTECT
D7	MA3036H	PROTECT
D9	MA3068M	PROTECT

C BOARD

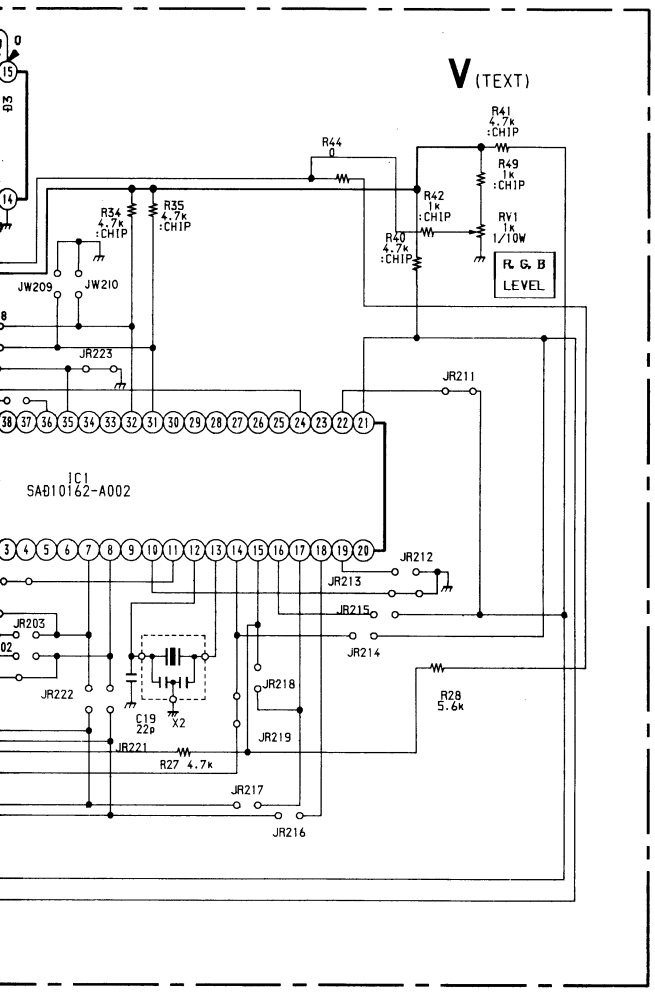
Q702	JC501	R DRIVE
Q703	BF871	R OUT
Q704	2SA10910	ACO MEASURING
Q705	JC501	G DRIVE
Q706	BF871	G OUT
Q707	2SA10910	ACO MEASURING
Q708	JC501	B DRIVE
Q709	BF871	B OUT
Q710	2SA10910	ACO MEASURING
D701	MTZJ9.1C	PROTECT
D702	1SS133	PROTECT
D703	1SS133	PROTECT
D704	1SS133	PROTECT
D705	1SS133	PROTECT
D706	1SS133	PROTECT
D707	1SS133	PROTECT
D708	1SS133	PROTECT
D709	1SS133	PROTECT
D710	1SS133	PROTECT
D711	RGP10G	HEATING VOLTAGE REC
D713	1SS133	PROTECT

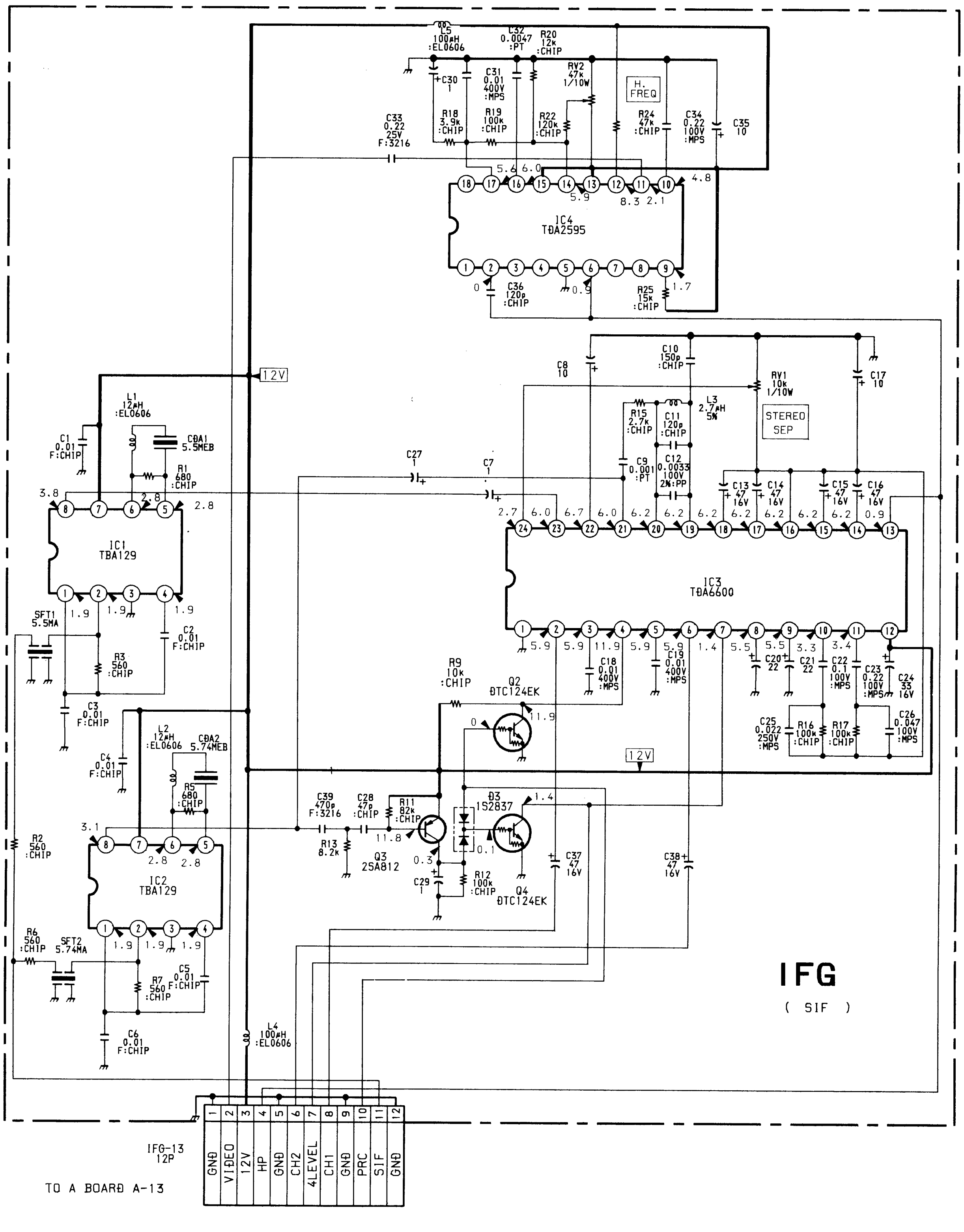
• WAVEFORMS C BOARD


①
22 Vp-p (H)
②
90 Vp-p (H)
③
100Vp-p (H)
④
120Vp-p (H)

C BOARD ＊MARK

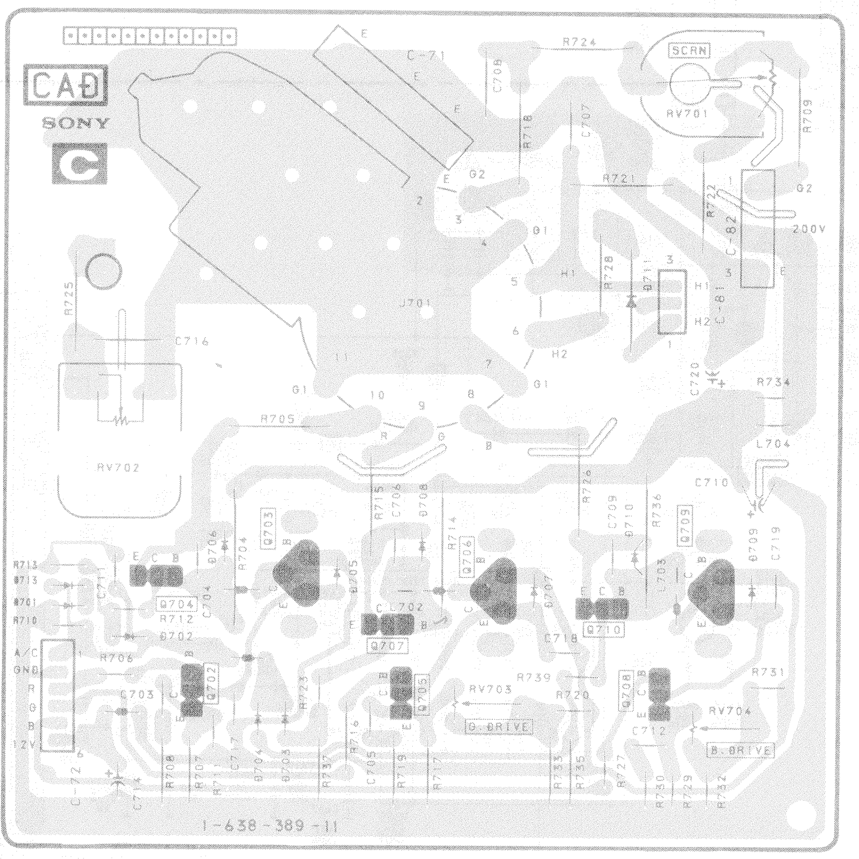
	KV-E2521D	KV-E2921D
C-71	2P	3P
R737	820K	470K

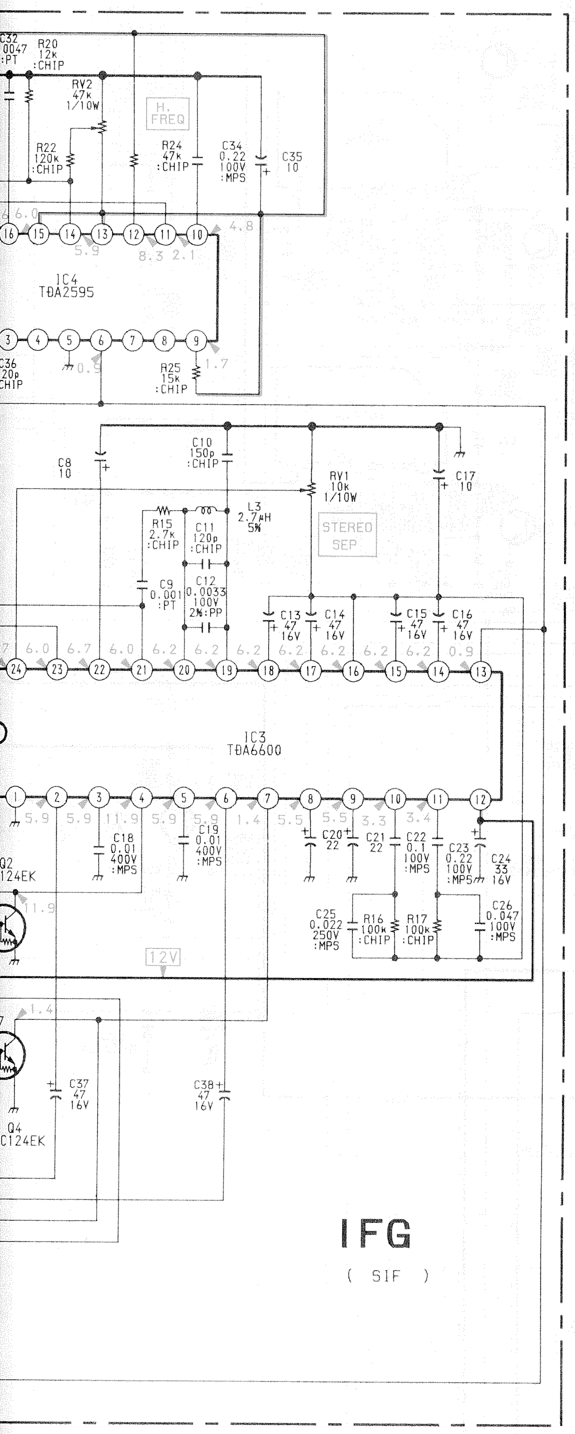

V (TEXT)
R41 4.7k :CHIP
R44 0
R49 1k :CHIP
R42 1k :CHIP
RV1 1k 1/10W
R40 4.7k :CHIP
R. G. B LEVEL
R34 4.7k :CHIP
R35 4.7k :CHIP
JW209
JW210
JR223
JR211
IC1 SAD10162-A002
JR212
JR213
JR215
JR214
JR203
JR218
JR222
C19 22p
X2
JR219
R28 5.6k
JR221
R27 4.7k
JR217
JR216


L5 100μH :EL0606
C32 0.0047 :PT
R20 12k :CHIP
C30 1
C31 0.01 400V :MPS
RV2 47k 1/10W
H. FREQ
C33 0.22 25V F:3216
R18 3.9k :CHIP
R19 100k :CHIP
R22 120k :CHIP
R24 47k :CHIP
C34 0.22 100V :MPS
C35 10
IC4 TDA2595
C36 120p :CHIP
R25 15k :CHIP
12V
C10 150p :CHIP
C8 10
RV1 10k 1/10W
C17 10
L1 12μH :EL0606
CDA1 5.5MEB
C1 0.01 F:CHIP
R1 680 :CHIP
R15 2.7k :CHIP
C11 120p :CHIP
L3 2.7μH 5N
STEREO SEP
C27 1
C7 1
C9 0.001 :PT
C12 0.0033 100V ZN:PP
C13 47 16V
C14 47 16V
C15 47 16V
C16 47 16V
IC1 TBA129
IC3 TDA6600
SFT1 5.5MA
C2 0.01 F:CHIP
R3 560 :CHIP
C3 0.01 F:CHIP
R9 10k :CHIP
Q2 DTC124EK
C18 0.01 400V :MPS
C19 0.01 400V :MPS
C20 22
C21 22
C22 0.1 100V :MPS
C23 0.22 100V :MPS
C24 33 16V
C25 0.022 250V :MPS
R16 100k :CHIP
R17 100k :CHIP
C26 0.047 100V :MPS
L2 12μH :EL0606
CDA2 5.74MEB
C4 0.01 F:CHIP
R5 680 :CHIP
C39 470p F:3216
C28 47p :CHIP
R11 82k :CHIP
D3 1S2837
R2 560 :CHIP
R13 8.2k
Q3 2SA812
C29 1
R12 100k :CHIP
Q4 DTC124EK
C37 47 16V
C38 47 16V
IC2 TBA129
R6 560 :CHIP
SFT2 5.74MA
R7 560 :CHIP
C5 0.01 F:CHIP
C6 0.01 F:CHIP
L4 100μH :EL0606
IFG
(SIF)
IFG-13 12P
TO A BOARD A-13
1 GND
2 VIDEO
3 12V
4 HP
5 GND
6 CH2
7 4LEVEL
8 CH1
9 GND
10 PRC
11 SIF
12 GND

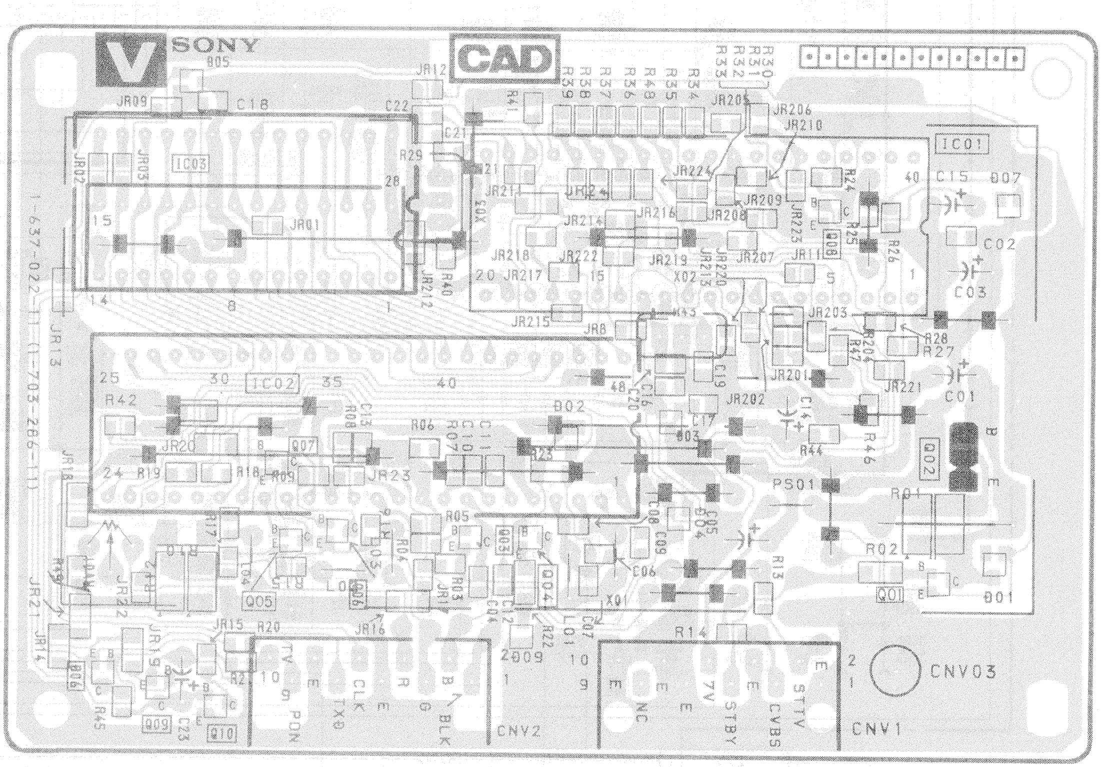
C [R. G. B OUT] V [TEXT] IFG [SIF]

–C BOARD–

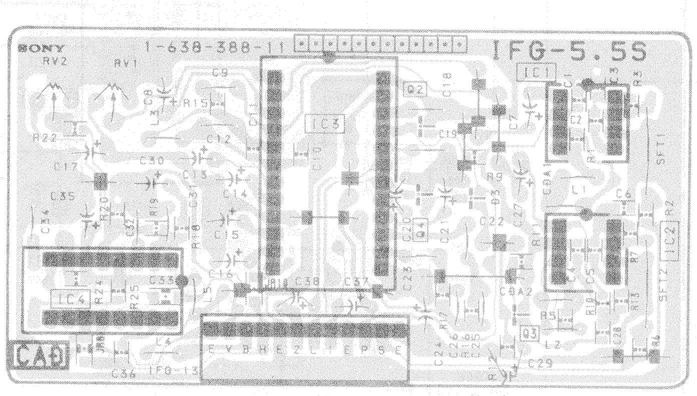

CAD
SONY
C
SCRN
RV701
RV702
J701
G DRIVE
B DRIVE
RV703
RV704
200V
1-638-389-11


H. FREQ
IC4
TBA2595
STEREO SEP
IC3
TBA6600
12V
IFG
(SIF)

–V BOARD–

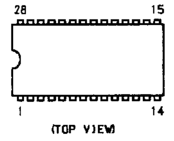

V
SONY
CAD
IC01
IC02
IC03
1-637-022-11 (1-703-265-11)
CNV1
CNV2
CNV03
PS01
TX0
CLK
PON
BLK
STBY
CVBS
STTV

–IFG BOARD–

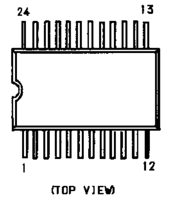

SONY
1-638-388-11
IFG-5.5S
IC1
IC2
IC3
IC4
CAD
IFG-13

5-4. SEMICONDUCTORS

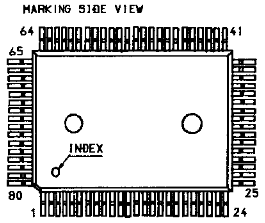
CXA1114P
SDA20162-A002
TDA4580-V6
TDA6200
TEA2028B


28
15
1
14
(TOP VIEW)

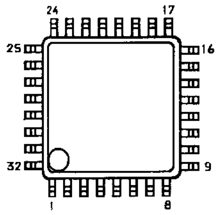
CXD1175AM
CXD1175M-T5


24
13
1
12
(TOP VIEW)

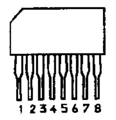
CXD2011Q
CXK1202Q-T4


MARKING SIDE VIEW
64
41
65
INDEX
80
25
1
24

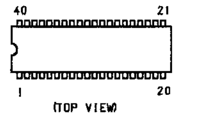
CXK-1202Q


24
17
25
16
32
9
1
8

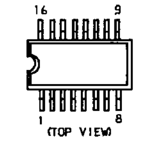
CX20061



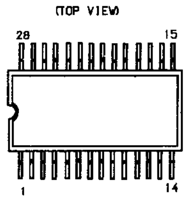
FCB61C65-70P
SDA20560-AE1C


40
21
1
20
(TOP VIEW)

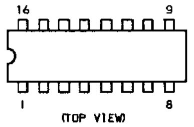
HCF4052BM


16
9
1
8
(TOP VIEW)

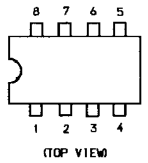
MB40968PF


(TOP VIEW)
28
15
1
14

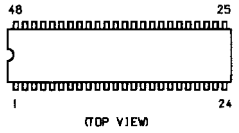
MC14053BCP
PCF8574
TC4051BPHB
TDA4660T
TDA8442-N3
TEA2260
µPD4053BC


16
9
1
8
(TOP VIEW)

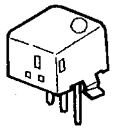
RC4558P
SDA2546
TEA2014A
TEA2031A


8 7 6 5
1 2 3 4
(TOP VIEW)

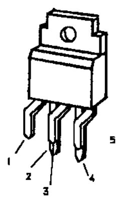
SAA5246E


48
25
1
24
(TOP VIEW)

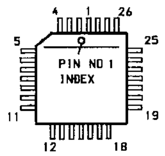
SBX1610-11



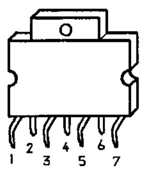
TDA2050



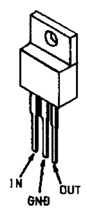
TDA4650WP


4
1
26
5
25
PIN NO 1 INDEX
11
19
12
18

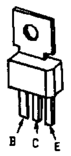
TDA8170



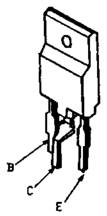
TEA7605
TYA7812CT
µPC24M05HF



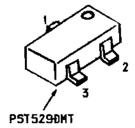
BF871



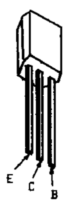
BU508AS1



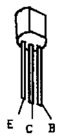
DTA144EK
DTC114EK
DTC124EK
DTC144EK
2SA1162G
2SB1295-UL6
2SC2412K
2SC2412K-QR
2SC2412K-R


1
2
3
PST529DMT

DTC144ES



2SA1091-X



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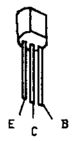
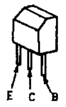
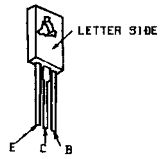
2SD789-3TZ
2SD789-34



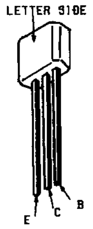
2SB734-34
2SD774-34



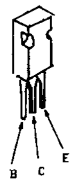
2SC2688-LK


LETTER SIDE
E
C
B

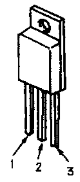
2SC2785-HFE


LETTER SIDE
E
C
B

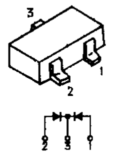
2SD2096-EF



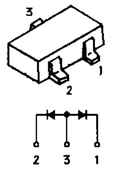
CTU-12S



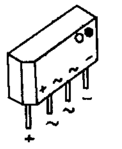
DAN212K
DAN212K-T146
MA152WK



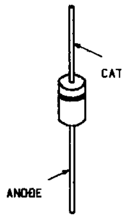
DAP202K
EGP20G
1S2836



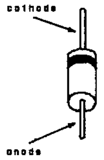
D4SB60L-F



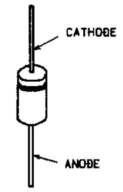
ERC06-15S
RU-3AM


CATHODE
ANODE

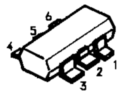
ERD29-08J


cathode
anode

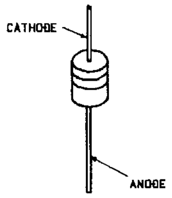
ES1F


CATHODE
ANODE

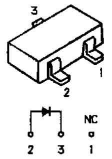
IMN10



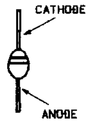
HZS36NB4
MTZJ-T-77-13B
MTZJ-T-77-15A
MTZJ-T-77-33A
MTZJ-T77-6.2B
MTZJ-T-77-10C
MTZJ-13B
MTZJ-15A
MTZJ-3.9
MTZJ-33A
MTZJ-6.2B
MTZJN-10C
RD5.6ESB2
RD6.8ESB2
RD7.5ESB2
RD9.1ESB3
VZ4.7BSC
1SS119


CATHODE
ANODE

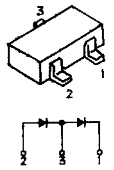
MA3056
MA3056-H
MA3110M-TX
RD11M-B2
RD3.6M-B2
RD5.6M-B2
RD6.8M-B2



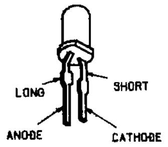
U05G


CATHODE
ANODE

1SS226



LD-201VR


LONG
SHORT
ANODE
CATHODE

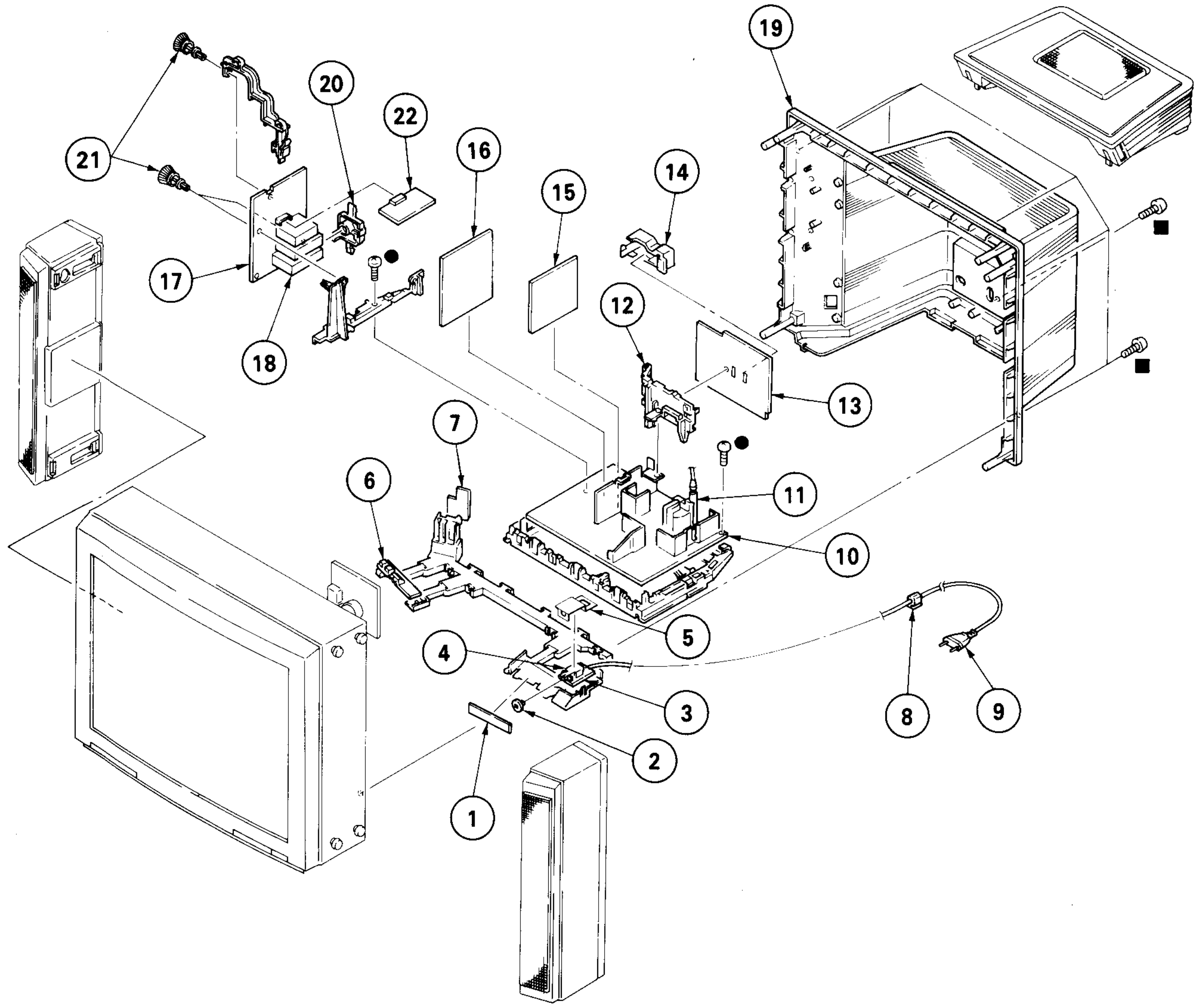
SECTION 6
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

(1) CHASSIS

● : BVTP3×12 7-685-648-79
■ : BVTP4×16 7-685-663-79

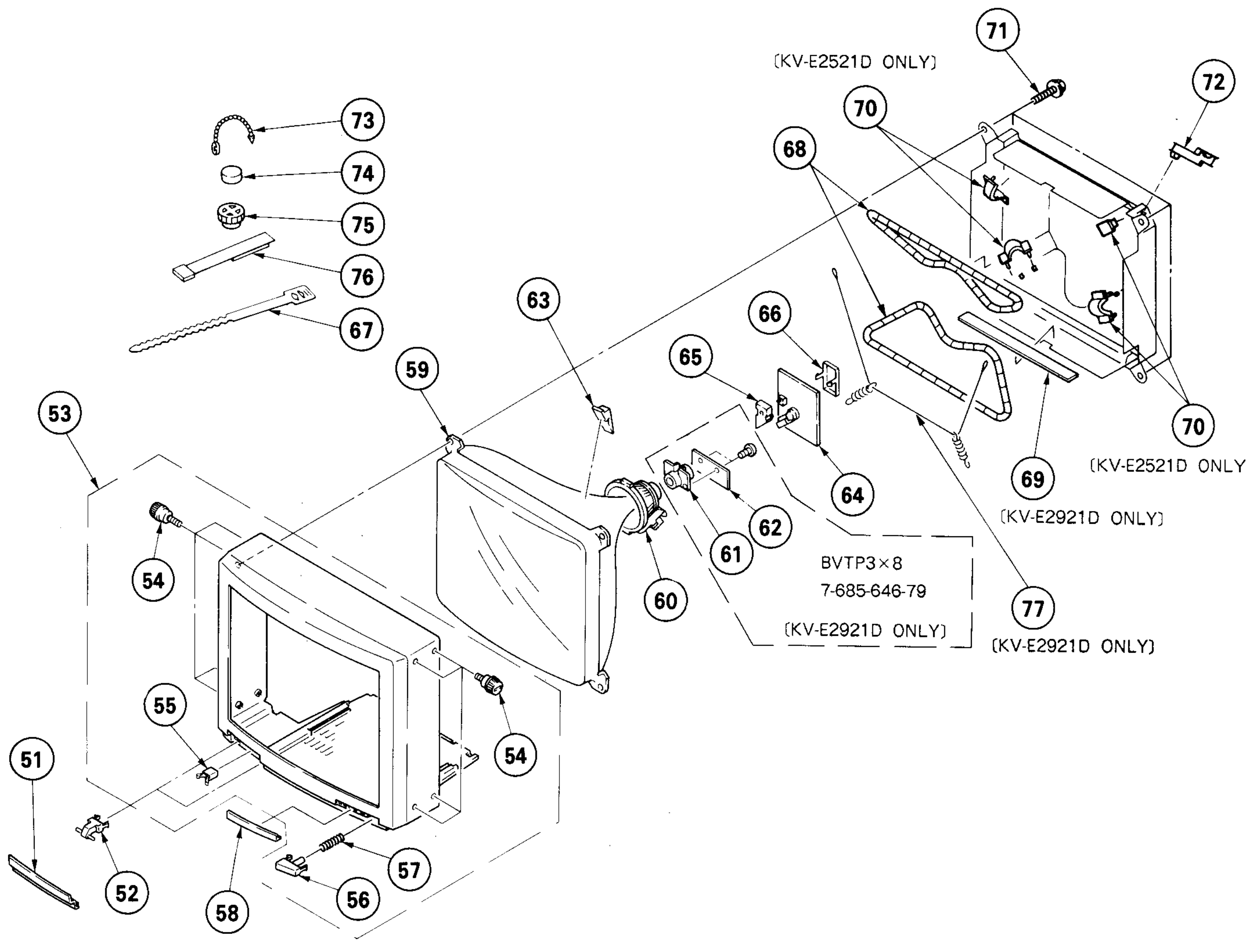


REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-638-392-11	H2 BOARD	
2	4-201-011-01	CAP, SWITCH (KV-E2521D ONLY)	
	4-386-611-01	COVER, SWITCH (KV-E2921D ONLY)	
3	*1-638-390-11	F BOARD	
4	⚠1-571-433-11	SWITCH, PUSH (AC POWER)	
5	4-200-274-01	COVER, POWER SWITCH	
6	*1-638-391-11	H1 BOARD	
7	*1-638-393-11	J2 BOARD	
8	⚠4-389-201-02	HOLDER, AC CORD	
9	⚠1-590-501-11	CORD, POWER(WITH NOISE FILTER)	
10	A-1642-031-A	D BOARD, COMPLETE (KV-E2521D ONLY)	
	A-1642-032-A	D BOARD, COMPLETE (KV-E2921D ONLY)	
11	⚠1-439-416-11	TRANSFORMER ASSY, FLYBACK (UX-1600)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
12	*4-386-624-11	BRACKET, J	
13	A-1651-018-A	J1 BOARD, COMPLETE (KV-E2521D ONLY)	
	A-1651-020-A	J1 BOARD, COMPLETE (KV-E2921D ONLY)	
14	4-200-014-01	BRACKET, TERMINAL	
15	A-1645-013-A	V BOARD, COMPLETE	
16	A-1621-013-A	B1 BOARD, COMPLETE (KV-E2521D ONLY)	
	A-1621-015-A	B1 BOARD, COMPLETE (KV-E2921D ONLY)	
17	A-1632-022-A	A BOARD, COMPLETE	
18	⚠1-465-301-11	TUNER, ET (UV-816(PLL))	
19	4-201-017-02	COVER, REAR (KV-E2521D ONLY)	
	4-200-026-04	COVER, REAR (KV-E2921D ONLY)	
20	*4-386-617-01	HOLDER, TERMINAL	
21	4-386-618-01	RIVET, T TYPE	
22	A-1654-004-A	IFG BOARD, COMPLETE	

(2) PICTURE TUBE

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

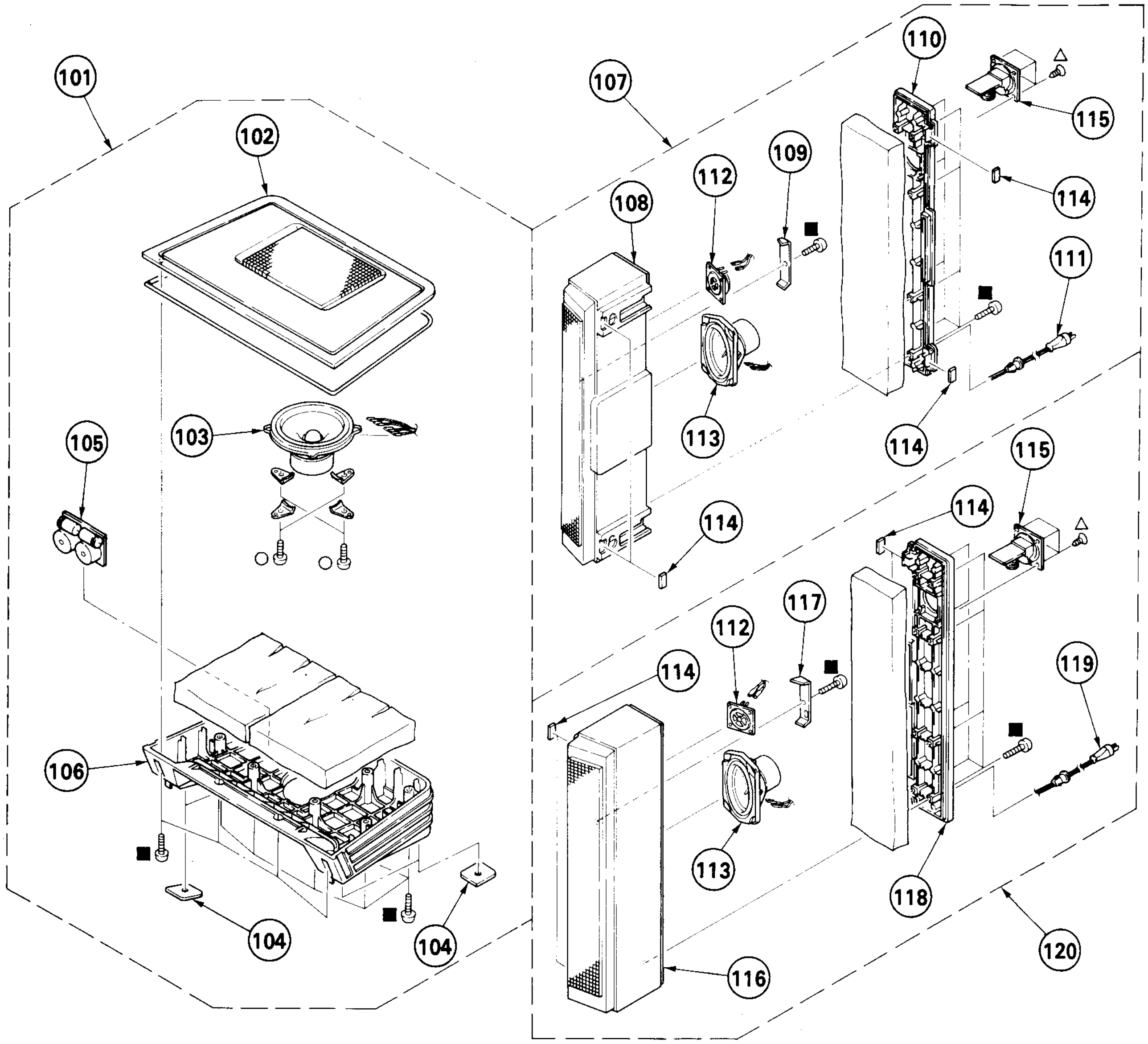


REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4201-006-5	DOOR ASSY, CONTROL (KV-E2521D ONLY)	
	X-4200-001-5	LID ASSY, CONTROL (KV-E2921D ONLY)	
52	3-703-035-11	SHAFT, LID	
53	X-4201-005-5	CABINET ASSY (WITH BEZEL ASSY) (KV-E2521D ONLY)	54-57
	X-4200-008-8	CABINET ASSY (WITH BEZEL ASSY) (KV-E2921D ONLY)	54-57
54	X-4374-104-1	SCREW (B) ASSY, ORNAMENTAL	
55	4-392-036-01	CATCHER, PUSH	
56	4-200-013-01	BUTTON, POWER	
57	4-329-112-21	SPRING	
58	4-200-017-02	WINDOW, ORNAMENTAL	
59	⚠8-733-224-05	PICTURE TUBE (A59JWC60X)(KV-E2521D ONLY)	
	⚠8-733-824-05	PICTURE TUBE (A68JYK60X)(KV-E2921D ONLY)	
60	⚠1-451-311-21	DEFLECTION YOKE (Y25FXA)(KV-E2521D ONLY)	
	⚠1-451-313-21	DEFLECTION YOKE (Y29FXA)(KV-E2921D ONLY)	
61	⚠1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308) (KV-E2921D ONLY)	

REF.NO.	PART NO.	DESCRIPTION	REMARK
62	*1-634-193-11	VM BOARD (KV-E2921D ONLY)	
63	3-704-495-01	SPACER, DY	
64	*A-1638-011-A	C BOARD, COMPLETE (KV-E2521D ONLY)	
	*A-1638-013-A	C BOARD, COMPLETE (KV-E2921D ONLY)	
65	*4-379-167-01	COVER (MAIN), CV	
66	*4-379-160-01	COVER (REAR LID), CV	
67	3-701-007-00	BAND, BINDING	
68	⚠1-460-091-11	COIL, DEGAUSS (KV-E2521D ONLY)	
	⚠1-426-398-11	COIL, DEMAGNETIZATION (KV-E2921D ONLY)	
69	4-389-291-01	CUSHION (KV-E2921D ONLY)	
70	*4-385-916-01	HOLDER (D) (KV-E2521D ONLY)	
71	4-373-263-01	SCREW (M), PT	
72	*4-387-216-01	HOLDER, LEAD	
73	4-308-870-00	CLIP, LEAD WIRE	
74	1-452-032-00	MAGNET, DISK; 10MM ϕ	
75	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
76	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
77	4-369-318-00	SPRING, TENSION (KV-E2921D ONLY)	

(3) SPEAKER

■ : BVTP4×16 7-685-663-79
○ : BVTP4×10 7-685-660-79
△ : KTP3×12 7-685-248-19



REF.NO.	PART NO.	DESCRIPTION	REMARK
101	*A-1678-001-A	BOX ASSY, WOOFER	102-106
102	X-4200-004-2	BOARD ASSY, BAFFLE	
103	1-544-192-11	SPEAKER	
104	4-200-009-01	CUSHION, FOOT	
105	1-236-549-11	NETWORK, DIVIDING	
106	4-200-027-01	BOX, WOOFER	
107	*A-1678-012-A	BOX ASSY (LEFT), SPEAKER	108-115 (KV-E2521D ONLY)
	*A-1678-005-A	BOX ASSY (LEFT), SPEAKER	108-115 (KV-E2921D ONLY)
108	X-4201-003-1	BOX ASSY (LEFT), SIDE (KV-E2521D ONLY)	
	X-4200-006-1	BOX ASSY (L), SIDE (KV-E2921D ONLY)	
109	*4-200-003-02	BRACKET (L), SPEAKER	
110	4-201-007-01	PANEL (LEFT), REAR (KV-E2521D ONLY)	
	4-200-030-01	PANEL (L), REAR (KV-E2921D ONLY)	
111	1-575-025-11	CORD, SPEAKER (WITH PLUG)	
112	1-544-203-11	SPEAKER	
113	1-544-204-11	SPEAKER	
114	4-200-006-01	CUSHION, FOOT	
115	1-236-510-21	NETWORK, DIVIDING	
116	X-4201-004-1	BOX ASSY (RIGHT), SIDE (KV-E2521D ONLY)	
	X-4200-005-1	BOX ASSY (R), SIDE (KV-E2921D ONLY)	
117	*4-200-004-02	BRACKET (R), SPEAKER	
118	4-201-006-01	PANEL (RIGHT), REAR (KV-E2521D ONLY)	
	4-200-029-01	PANEL (R), REAR (KV-E2921D ONLY)	
119	1-575-024-11	CORD, SPEAKER (WITH PLUG)	
120	*A-1678-010-A	BOX ASSY (RIGHT), SPEAKER	112-119 (KV-E2521D ONLY)
	*A-1678-003-A	BOX ASSY (RIGHT), SPEAKER	112-119 (KV-E2921D ONLY)

SECTION 7
ELECTRICAL PARTS LIST

B1

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

REF.NO.	PART NO.	DESCRIPTION			REMARK
	A-1621-013-A	B1 BOARD, COMPLETE (KV-E2521D ONLY) ******************			
	A-1621-015-A	B1 BOARD, COMPLETE (KV-E2921D ONLY) ******************			
	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
	*1-568-878-51	PIN, CONNECTOR 3P (KV-E2921D ONLY)			
	*1-568-881-51	PIN, CONNECTOR 6P			
		<CAPACITOR>			
C301	1-137-031-11	FILM	0.22MF	10%	100V
C302	1-137-031-11	FILM	0.22MF	10%	100V
C303	1-124-122-11	ELECT	100MF	20%	50V
C304	1-137-031-11	FILM	0.22MF	10%	100V
C305	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C306	1-124-902-00	ELECT	0.47MF	20%	50V
C307	1-124-902-00	ELECT	0.47MF	20%	50V
C308	1-124-902-00	ELECT	0.47MF	20%	50V
C309	1-124-902-00	ELECT	0.47MF	20%	50V
C310	1-137-098-11	FILM	0.1MF	10%	100V
C311	1-137-098-11	FILM	0.1MF	10%	100V
C312	1-124-902-00	ELECT	0.47MF	20%	50V
C313	1-124-902-00	ELECT	0.47MF	20%	50V
C314	1-124-902-00	ELECT	0.47MF	20%	50V
C315	1-124-791-11	ELECT	1MF	20%	50V
C316	1-124-927-11	ELECT	4.7MF	20%	50V
C317	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C318	1-124-927-11	ELECT	4.7MF	20%	50V
C319	1-124-927-11	ELECT	4.7MF	20%	50V
C320	1-124-910-11	ELECT	47MF	20%	50V
C321	1-137-027-11	FILM	0.82MF	10%	63V
C322	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C323	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C324	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C325	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C326	1-124-910-11	ELECT	47MF	20%	50V
C327	1-124-910-11	ELECT	47MF	20%	50V
C328	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C329	1-163-123-00	CERAMIC CHIP	180PF	5%	50V
C330	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C331	1-137-098-11	FILM	0.1MF	10%	100V
C332	1-137-098-11	FILM	0.1MF	10%	100V
C333	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C335	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C337	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C338	1-137-102-11	FILM	0.022MF	10%	250V
C339	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C340	1-126-103-11	ELECT	470MF	20%	16V
C341	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C342	1-124-791-11	ELECT	1MF	20%	50V
C343	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C344	1-124-791-11	ELECT	1MF	20%	50V
C345	1-137-094-11	FILM	0.047MF	10%	100V
C346	1-137-033-11	FILM	0.33MF	10%	100V
C347	1-137-098-11	FILM	0.1MF	10%	100V
C348	1-137-102-11	FILM	0.022MF	10%	250V
C349	1-137-102-11	FILM	0.022MF	10%	250V
C350	1-124-902-00	ELECT	0.47MF	20%	50V
C351	1-137-102-11	FILM	0.022MF	10%	250V
C352	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C353	1-126-101-11	ELECT	100MF	20%	16V
C354	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C356	1-126-101-11	ELECT	100MF	20%	16V
C357	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C358	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C360	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C361	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C363	1-163-033-00	CERAMIC CHIP	0.022MF		50V
C371	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C372	1-124-477-11	ELECT	47MF	20%	16V
C373	1-124-477-11	ELECT	47MF	20%	16V
C374	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C375	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C376	1-124-034-51	ELECT	33MF	20%	16V
C377	1-124-119-00	ELECT	330MF	20%	16V
C378	1-124-034-51	ELECT	33MF	20%	16V
C379	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C380	1-163-090-00	CERAMIC CHIP	7PF	0.25PF	50V
C381	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C382	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C383	1-163-197-00	CERAMIC CHIP	470PF	5%	50V
C384	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C385	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C386	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C387	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C388	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C389	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C390	1-123-875-11	ELECT	10MF	20%	50V
C391	1-123-875-11	ELECT	10MF	20%	50V
C392	1-123-875-11	ELECT	10MF	20%	50V
C393	1-126-101-11	ELECT	100MF	20%	16V
C394	1-126-101-11	ELECT	100MF	20%	16V
C395	1-126-101-11	ELECT	100MF	20%	16V
C396	1-126-101-11	ELECT	100MF	20%	16V
C397	1-124-791-11	ELECT	1MF	20%	50V
C398	1-123-875-11	ELECT	10MF	20%	50V
C399	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1301	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1302	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C1303	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1304	1-123-875-11	ELECT	10MF	20%	50V
C1305	1-126-101-11	ELECT	100MF	20%	16V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION		REMARK
C1306	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1307	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1308	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1309	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1310	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1311	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1312	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1313	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1314	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C1315	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1316	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C1317	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1318	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1319	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1320	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1321	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1322	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1323	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1324	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C1325	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C1326	1-164-232-11	CERAMIC CHIP 0.01MF		50V
C1327	1-163-115-00	CERAMIC CHIP 82PF	5%	50V
C1328	1-163-809-11	CERAMIC CHIP 0.047MF	10%	25V
C1329	1-163-035-00	CERAMIC CHIP 0.047MF		50V
C1330	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C1331	1-164-187-11	CERAMIC CHIP 390PF	2%	50V
C1333	1-126-101-11	ELECT 100MF	20%	16V

<TRIMMER>

REF.NO.	PART NO.	DESCRIPTION
CT301	1-141-418-11	CAP, ADJ
CT302	1-141-418-11	CAP, ADJ

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D301	8-719-951-22	DIODE IMN10
D304	8-719-989-26	DIODE DAN212K
D305	8-719-989-26	DIODE DAN212K
D307	8-719-106-62	DIODE RD11M-B2
D308	8-719-989-26	DIODE DAN212K
D309	8-719-989-26	DIODE DAN212K
D310	8-719-106-62	DIODE RD11M-B2
D311	8-719-106-62	DIODE RD11M-B2
D312	8-719-106-62	DIODE RD11M-B2
D314	8-719-800-76	DIODE 1SS226
D318	8-719-800-76	DIODE 1SS226
D319	8-719-800-76	DIODE 1SS226
D320	8-719-800-76	DIODE 1SS226
D321	8-719-105-91	DIODE RD5.6M-B2
D322	8-719-400-18	DIODE MA152WK
D330	8-719-989-26	DIODE DAN212K
D331	8-719-914-44	DIODE DAP202K
D333	8-719-951-22	DIODE IMN10
D336	8-719-400-18	DIODE MA152WK
D340	8-719-800-76	DIODE 1SS226
D341	8-719-989-26	DIODE DAN212K

<DELAY LINE>

REF.NO.	PART NO.	DESCRIPTION
DL301	1-415-613-11	DELAY LINE, Y

<FILTER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
FL301	1-236-620-11	FILTER, LOW PASS	
FL302	1-236-620-11	FILTER, LOW PASS	
FL303	1-236-620-11	FILTER, LOW PASS	
FL305	1-236-164-11	ENCAPSULATED COMPONENT	

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC301	8-759-503-41	IC TDA4580-V6
IC302	8-759-980-60	IC TDA8442N3
IC303	8-759-510-48	IC TDA4660T
IC304	8-759-510-47	IC TDA4650WP
IC305	8-759-144-84	IC UPC24M05HF
IC306	8-759-510-50	IC HCF4052BM
IC308	8-752-006-12	IC CX20061
IC310	8-752-337-07	IC CXD2011Q
IC311	8-759-996-49	IC MB40968PF
IC312	8-752-338-45	IC CXK1202Q
IC313	8-752-338-45	IC CXK1202Q
IC315	8-752-334-55	IC CXD1175AM

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L301	1-408-405-00	INDUCTOR	4.7UH
L303	1-404-554-11	COIL	
L304	1-408-405-00	INDUCTOR	4.7UH
L305	1-408-402-00	INDUCTOR	2.7UH
L306	1-408-405-00	INDUCTOR	4.7UH
L308	1-404-495-00	COIL	
L309	1-408-415-00	INDUCTOR	33UH
L310	1-408-419-00	INDUCTOR	68UH
L312	1-404-495-00	COIL	
L313	1-404-554-11	COIL	
L314	1-408-409-00	INDUCTOR	10UH
L320	1-408-405-00	INDUCTOR	4.7UH
L321	1-408-405-00	INDUCTOR	4.7UH
L323	1-408-398-00	INDUCTOR	1.2UH
L325	1-408-405-00	INDUCTOR	4.7UH
L326	1-408-421-00	INDUCTOR	100UH
L327	1-408-402-00	INDUCTOR	2.7UH
L1301	1-408-425-00	INDUCTOR	220UH

<IC LINK>

REF.NO.	PART NO.	DESCRIPTION
PS301⚠	1-532-605-91	LINK, IC (ICP-N10) 0.4A

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q301	8-729-901-78	TRANSISTOR 2SC2412K-R
Q302	8-729-901-78	TRANSISTOR 2SC2412K-R
Q303	8-729-901-78	TRANSISTOR 2SC2412K-R
Q304	8-729-901-78	TRANSISTOR 2SC2412K-R
Q305	8-729-901-06	TRANSISTOR DTA144EK
Q306	8-729-901-78	TRANSISTOR 2SC2412K-R
Q307	8-729-901-78	TRANSISTOR 2SC2412K-R
Q308	8-729-901-00	TRANSISTOR DTC124EK
Q310	8-729-901-00	TRANSISTOR DTC124EK
Q311	8-729-901-00	TRANSISTOR DTC124EK
Q320	8-729-901-78	TRANSISTOR 2SC2412K-R
Q321	8-729-216-22	TRANSISTOR 2SA1162-G
Q322	8-729-216-22	TRANSISTOR 2SA1162-G
Q323	8-729-901-78	TRANSISTOR 2SC2412K-R
Q324	8-729-901-78	TRANSISTOR 2SC2412K-R
Q327	8-729-216-22	TRANSISTOR 2SA1162-G
Q328	8-729-216-22	TRANSISTOR 2SA1162-G

B1

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q329	8-729-216-22	TRANSISTOR 2SA1162-G	
Q330	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q331	8-729-216-22	TRANSISTOR 2SA1162-G	
Q332	8-729-216-22	TRANSISTOR 2SA1162-G	
Q333	8-729-901-00	TRANSISTOR DTC124EK	
Q334	8-729-901-00	TRANSISTOR DTC124EK	
Q335	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q336	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q337	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q338	8-729-216-22	TRANSISTOR 2SA1162-G	
Q339	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q340	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q341	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q342	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q343	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q344	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q345	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q346	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q347	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q348	8-729-901-00	TRANSISTOR DTC124EK	
Q350	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q352	8-729-216-22	TRANSISTOR 2SA1162-G	
Q353	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q354	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q355	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q356	8-729-216-22	TRANSISTOR 2SA1162-G	
Q357	8-729-216-22	TRANSISTOR 2SA1162-G	
Q358	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q359	8-729-216-22	TRANSISTOR 2SA1162-G	
Q360	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q361	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q362	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q363	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q364	8-729-216-22	TRANSISTOR 2SA1162-G	
Q365	8-729-216-22	TRANSISTOR 2SA1162-G	
Q366	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q367	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q368	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q369	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q370	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q371	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q372	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q373	8-729-901-00	TRANSISTOR DTC124EK	
Q1301	8-729-901-00	TRANSISTOR DTC124EK	
Q1302	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q1303	8-729-901-00	TRANSISTOR DTC124EK	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR302	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR304	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR305	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR390	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR391	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R301	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R302	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R303	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R304	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R305	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R306	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R307	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R309	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R310	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R311	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R312	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R313	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R314	1-216-019-00	METAL GLAZE	56	5%	1/10W	
R315	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R316	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R317	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R318	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R319	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R320	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R321	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R322	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R323	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R324	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R325	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R326	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R327	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R328	1-216-009-00	METAL GLAZE	22	5%	1/10W	
R329	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R330	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R331	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R332	1-216-182-00	METAL GLAZE	220	5%	1/8W	
R333	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R335	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R336	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R337	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R338	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R339	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R340	1-216-103-00	METAL GLAZE	180K	5%	1/10W	
R341	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R342	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R343	1-216-043-00	METAL GLAZE	560	5%	1/10W	(KV-E2521D ONLY)
	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	(KV-E2921D ONLY)
R344	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R345	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R346	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R347	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R348	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R349	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R350	1-216-184-00	METAL GLAZE	270	5%	1/8W	
R351	1-216-184-00	METAL GLAZE	270	5%	1/8W	
R352	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R353	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R354	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R355	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R356	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R357	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R358	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R359	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R361	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R362	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R363	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R364	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R365	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R366	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R367	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R368	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R369	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R370	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R371	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R372	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R373	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R374	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R375	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R376	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R377	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R378	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R379	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R380	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R381	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R382	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R383	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R384	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R385	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R386	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R387	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R388	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R389	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R390	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R391	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R392	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R393	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R394	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R395	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R396	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R397	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R398	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R399	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R403	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1301	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1302	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1303	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1305	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1308	1-216-295-00	METAL GLAZE	0	5%	1/10W	(KV-E2521D ONLY)
	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(KV-E2921D ONLY)
R1309	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1310	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1311	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1312	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1313	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1314	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1315	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1316	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1319	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1320	1-216-641-11	METAL CHIP	390	0.50%	1/10W	
R1321	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1322	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1323	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R1324	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1325	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1326	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1327	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1328	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1329	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1330	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1331	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1332	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1333	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1334	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1335	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1336	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1337	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R1338	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1339	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1340	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1341	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	
R1342	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1343	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1344	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1345	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1346	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1347	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1348	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1349	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R1350	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1351	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1352	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1353	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1354	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1355	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1356	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1357	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1358	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1359	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1360	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1361	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1362	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1363	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R1364	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1365	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1366	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1367	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R1368	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1369	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1370	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1371	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1372	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1373	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R1374	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	
R1375	1-216-208-00	METAL GLAZE	2.7K	5%	1/8W	
R1376	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R1377	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R1378	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R1379	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R1380	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1381	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1382	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1383	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1384	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1385	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R1386	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1387	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R1388	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1389	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1390	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R1391	1-216-208-00	METAL GLAZE	2.7K	5%	1/8W	
R1392	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1393	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1394	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1395	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1396	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1397	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1398	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1399	1-216-029-00	METAL GLAZE	150	5%	1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV301	1-238-012-11	RES, ADJ, CARBON 1K	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X301	1-567-307-11	OSCILLATOR, CRYSTAL	
X302	1-567-131-00	OSCILLATOR, CRYSTAL	

****

*1-638-390-11 F BOARD
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-580-690-11	PIN, CONNECTOR (PC BOARD) 4P	
	*4-341-752-01	EYELET	

<FUSE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
F1601⚠	1-532-504-31	FUSE 4A/250V	
	1-533-230-11	HOLDER, FUSE; F1601	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S1701⚠	1-571-433-11	SWITCH, PUSH (AC POWER)	

****

A-1632-022-A A BOARD, COMPLETE
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
	*1-564-881-11	PLUG, CONNECTOR 4P	
	*1-564-886-11	PLUG, CONNECTOR 9P	
	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
	*1-565-503-11	CONNECTOR, BOARD TO BOARD 12P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C101	1-126-233-11	ELECT	22MF	20%	50V	
C102	1-126-103-11	ELECT	470MF	20%	16V	
C104	1-124-910-11	ELECT	47MF	20%	50V	
C106	1-126-233-11	ELECT	22MF	20%	50V	
C108	1-136-165-00	FILM	0.1MF	5%	50V	
C109	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C111	1-124-925-11	ELECT	2.2MF	20%	50V	
C115	1-124-925-11	ELECT	2.2MF	20%	50V	
C127	1-124-122-11	ELECT	100MF	20%	50V	
C128	1-124-910-11	ELECT	47MF	20%	50V	
C129	1-124-910-11	ELECT	47MF	20%	50V	
C138	1-136-165-00	FILM	0.1MF	5%	50V	
C171	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C172	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C177	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C181	1-101-004-00	CERAMIC	0.01MF		50V	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC103	8-759-979-62	IC PCF8574	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L100	1-410-683-31	INDUCTOR	560UH	
L101	1-408-225-00	INDUCTOR	3.3UH	
L102	1-408-413-00	INDUCTOR	22UH	
L107	1-408-397-00	INDUCTOR	1UH	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q113	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q114	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q115	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q116	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q125	8-729-900-89	TRANSISTOR DTC144ES	
Q126	8-729-901-06	TRANSISTOR DTA144EK	
Q181	8-729-901-78	TRANSISTOR 2SC2412K-R	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR230	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR252	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR253	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR255	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR256	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR257	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR258	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R105	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R107	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R108	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R110	1-249-429-11	CARBON	10K	5%	1/4W	
R111	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R116	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R118	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R128	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R129	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R130	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R157	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R158	1-249-409-11	CARBON	220	5%	1/4W	
R159	1-249-409-11	CARBON	220	5%	1/4W	
R161	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R162	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R163	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R164	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R165	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R167	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R168	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R169	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R181	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R182	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R193	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R194	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R195	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R196	1-216-113-00	METAL GLAZE	470K	5%	1/10W	

<TUNER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
TU101⚠	1-465-301-11	TUNER, ET (UV-816(PLL))	

<IF BLOCK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
VIF101	1-466-154-21	IF BLOCK (IFG-389S)	

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*A-1638-011-A C BOARD, COMPLETE (KV-E2521D ONLY)
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*A-1638-013-A C BOARD, COMPLETE (KV-E2921D ONLY)
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REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-506-371-00	PIN, CONNECTOR 2P	
	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
	*1-568-878-51	PIN, CONNECTOR 3P	

REF.NO.	PART NO.	DESCRIPTION				REMARK
	*1-568-881-51	PIN, CONNECTOR 6P				
	*4-379-160-01	COVER (REAR LID), CV				
	*4-379-167-01	COVER (MAIN), CV				

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C703	1-102-980-00	CERAMIC	270PF	5%	50V	
C704	1-102-116-00	CERAMIC	680PF	10%	50V	
C705	1-102-978-00	CERAMIC	220PF	5%	50V	
C706	1-102-116-00	CERAMIC	680PF	10%	50V	
C707	1-162-116-00	CERAMIC	680PF	10%	2KV	
C708	1-162-114-00	CERAMIC	0.0047MF		2KV	
C709	1-102-116-00	CERAMIC	680PF	10%	50V	
C710	1-123-947-00	ELECT	10MF	20%	250V	
C711	1-101-880-00	CERAMIC	47PF	5%	50V	
C712	1-102-980-00	CERAMIC	270PF	5%	50V	
C714	1-124-360-00	ELECT	1000MF	20%	16V	
C716	1-162-622-11	CERAMIC	330PF	10%	400V	
C717	1-102-114-00	CERAMIC	470PF	10%	50V	
C718	1-102-114-00	CERAMIC	470PF	10%	50V	
C719	1-102-114-00	CERAMIC	470PF	10%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D701	8-719-110-14	DIODE RD9.1ES-B3
D702	8-719-911-19	DIODE 1SS119
D703	8-719-911-19	DIODE 1SS119
D704	8-719-911-19	DIODE 1SS119
D705	8-719-911-19	DIODE 1SS119
D706	8-719-911-19	DIODE 1SS119
D707	8-719-911-19	DIODE 1SS119
D708	8-719-911-19	DIODE 1SS119
D709	8-719-911-19	DIODE 1SS119
D710	8-719-911-19	DIODE 1SS119
D711	8-719-300-33	DIODE RU-3AM
D713	8-719-911-19	DIODE 1SS119

<JACK>

REF.NO.	PART NO.	DESCRIPTION
J701	1-526-990-11	SOCKET, PICTURE TUBE

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L704	1-410-878-11	INDUCTOR	33UH

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q703	8-729-906-70	TRANSISTOR BF871
Q704	8-729-200-17	TRANSISTOR 2SA1091-0
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q706	8-729-906-70	TRANSISTOR BF871
Q707	8-729-200-17	TRANSISTOR 2SA1091-0
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q709	8-729-906-70	TRANSISTOR BF871
Q710	8-729-200-17	TRANSISTOR 2SA1091-0

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R704	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R705	1-202-824-00	SOLID	3.3K	10%	1/2W	
R706	1-249-409-11	CARBON	220	5%	1/4W	
R707	1-249-412-11	CARBON	390	5%	1/4W	
R708	1-249-401-11	CARBON	47	5%	1/4W	
R709	1-202-844-00	SOLID	330K	10%	1/2W	
R710	1-215-465-00	METAL	68K	1%	1/6W	
R711	1-249-426-11	CARBON	5.6K	5%	1/4W	
R712	1-249-417-11	CARBON	1K	5%	1/4W	
R713	1-215-471-00	METAL	120K	1%	1/6W	
R714	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R715	1-202-824-00	SOLID	3.3K	10%	1/2W	
R716	1-249-409-11	CARBON	220	5%	1/4W	
R717	1-249-415-11	CARBON	680	5%	1/4W	
R718	1-202-814-11	SOLID	33K	10%	1/2W	
R719	1-249-401-11	CARBON	47	5%	1/4W	
R720	1-249-423-11	CARBON	3.3K	5%	1/4W	
R721	1-202-842-11	SOLID	220K	10%	1/2W	
R722	1-202-848-00	SOLID	680K	10%	1/2W	
R723	1-249-417-11	CARBON	1K	5%	1/4W	
R724	1-202-846-00	SOLID	470K	10%	1/2W	
R725	1-202-838-00	SOLID	100K	10%	1/2W	
R726	1-202-824-00	SOLID	3.3K	10%	1/2W	
R727	1-249-409-11	CARBON	220	5%	1/4W	
R728	1-216-347-11	METAL OXIDE	0.68	5%	1W	F
R729	1-249-416-11	CARBON	820	5%	1/4W	
R730	1-249-401-11	CARBON	47	5%	1/4W	
R731	1-249-423-11	CARBON	3.3K	5%	1/4W	
R732	1-249-415-11	CARBON	680	5%	1/4W	
R733	1-249-415-11	CARBON	680	5%	1/4W	
R734	1-249-405-11	CARBON	100	5%	1/4W	
R735	1-215-493-00	METAL	1M	1%	1/6W	
R736	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R737	1-215-491-00	METAL	820K	1%	1/6W (KV-E2521D ONLY)	
	1-215-485-00	METAL	470K	1%	1/6W (KV-E2921D ONLY)	
R739	1-249-417-11	CARBON	1K	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M
RV702	1-230-619-11	RES, ADJ, METAL GLAZE 110M
RV703	1-237-749-11	RES, ADJ, CARBON 2200
RV704	1-237-749-11	RES, ADJ, CARBON 2200

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REF.NO.	PART NO.	DESCRIPTION
	A-1642-031-A	D BOARD, COMPLETE (KV-E2521D ONLY) *****************
	A-1642-032-A	D BOARD, COMPLETE (KV-E2921D ONLY) *****************
	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)
	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR
	*1-565-395-11	PIN, CONNECTOR 3P
	*1-566-367-11	CONNECTOR, HINGE (RECEPTACLE)
	*1-568-536-11	PLUG (MINIATURE DY) 6P
	*1-568-878-51	PIN, CONNECTOR 3P (KV-E2921D ONLY)
	*1-568-881-51	PIN, CONNECTOR 6P
	*1-568-882-51	PIN, CONNECTOR 7P
	4-200-001-01	HOLDER, IC
	4-201-023-01	SPACER, INSULATING
	*4-341-751-01	EYELET
	*4-341-752-01	EYELET
	*4-368-683-01	SPRING

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

D

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C002	1-163-205-00	CERAMIC CHIP	0.001MF	5%	50V
C003	1-124-925-11	ELECT	2.2MF	20%	50V
C004	1-124-120-11	ELECT	220MF	20%	16V
C005	1-124-791-11	ELECT	1MF	20%	50V
C008	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C009	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C010	1-124-120-11	ELECT	220MF	20%	16V
C011	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C013	1-137-098-11	FILM	0.1MF	10%	100V
C014	1-137-098-11	FILM	0.1MF	10%	100V
C015	1-124-902-00	ELECT	0.47MF	20%	50V
C016	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C017	1-137-098-11	FILM	0.1MF	10%	100V
C018	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C019	1-137-094-11	FILM	0.047MF	10%	100V
C021	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C023	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C024	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C027	1-124-910-11	ELECT	47MF	20%	50V
C030	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C031	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C032	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C033	1-163-181-00	CERAMIC CHIP	100PF	5%	50V
C034	1-123-875-11	ELECT	10MF	20%	50V
C034	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C251	1-124-791-11	ELECT	1MF	20%	50V
C252	1-126-233-11	ELECT	22MF	20%	50V
C253	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C254	1-137-098-11	FILM	0.1MF	10%	100V
C255	1-124-636-00	ELECT	3300MF	20%	25V
C261	1-124-791-11	ELECT	1MF	20%	50V
C262	1-126-233-11	ELECT	22MF	20%	50V
C263	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C264	1-137-098-11	FILM	0.1MF	10%	100V
C265	1-124-564-11	ELECT	4700MF	20%	25V
C270	1-137-035-11	FILM	0.47MF	10%	100V
C274	1-137-035-11	FILM	0.47MF	10%	100V
C501	1-124-927-11	ELECT	4.7MF	20%	50V
C502	1-124-927-11	ELECT	4.7MF	20%	50V
C503	1-137-049-11	FILM	0.015MF	10%	400V
C504	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C505	1-108-794-11	MYLAR	0.0015MF	5%	50V
C506	1-137-102-11	FILM	0.022MF	10%	250V
C507	1-137-033-11	FILM	0.33MF	10%	100V
C508	1-137-102-11	FILM	0.022MF	10%	250V
C509	1-137-098-11	FILM	0.1MF	10%	100V
C510	1-161-959-00	CERAMIC	22PF	10%	500V
C511	1-108-686-11	MYLAR	0.0033MF	10%	100V
C512	1-137-098-11	FILM	0.1MF	10%	100V
C513	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C514	1-137-031-11	FILM	0.22MF	10%	100V
C515	1-124-791-11	ELECT	1MF	20%	50V
C516	1-108-680-11	MYLAR	0.001MF	10%	100V
C517	1-124-252-00	ELECT	0.33MF	20%	50V
C518	1-124-902-00	ELECT	0.47MF	20%	50V
C519	1-136-173-00	FILM	0.47MF	5%	50V (KV-E2521D ONLY)
	1-136-171-00	FILM	0.33MF	5%	50V (KV-E2921D ONLY)
C520	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C521	1-137-098-11	FILM	0.1MF	10%	100V
C522	1-124-122-11	ELECT	100MF	20%	50V
C523	1-108-680-11	MYLAR	0.001MF	10%	100V
C524	1-108-798-11	MYLAR	0.0033MF	5%	50V
C525	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C526	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C527	1-137-098-11	FILM	0.1MF	10%	100V
C531	1-124-190-00	ELECT	680MF	10%	25V
C532	1-124-122-11	ELECT	100MF	20%	50V
C533	1-137-096-11	FILM	0.068MF	10%	100V
C534	1-124-120-11	ELECT	220MF	20%	16V
C536	1-131-365-00	TANTALUM	10MF	10%	16V
C537	1-124-791-11	ELECT	1MF	20%	50V
C538	1-108-680-11	MYLAR	0.001MF	10%	100V
C539	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C540	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C592	1-124-122-11	ELECT	100MF	20%	50V
C593	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C601	⚠ 1-161-964-61	CERAMIC	0.0047MF		250V
C602	⚠ 1-161-964-61	CERAMIC	0.0047MF		250V
C603	⚠ 1-161-964-61	CERAMIC	0.0047MF		250V
C604	⚠ 1-125-318-11	ELECT(BLOCK)	220MF	20%	400V
C605	1-124-484-11	ELECT	220MF	20%	35V
C606	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C607	1-137-028-11	FILM	1MF	10%	63V
C608	1-124-927-11	ELECT	4.7MF	20%	50V
C611	1-124-910-11	ELECT	47MF	20%	50V
C612	1-108-680-11	MYLAR	0.001MF	10%	100V
C613	1-136-539-11	FILM	0.0022MF	3%	2KV
C614	1-102-030-00	CERAMIC	330PF	10%	500V
C615	1-128-142-11	ELECT	1500MF	20%	25V
C616	1-102-030-00	CERAMIC	330PF	10%	500V
C617	1-124-122-11	ELECT	100MF	20%	50V
C618	1-162-115-00	CERAMIC	330PF	10%	2KV
C619	1-128-320-51	ELECT	2200MF	20%	16V
C620	1-136-173-00	FILM	0.47MF	5%	50V
C621	1-124-347-00	ELECT	100MF	20%	160V
C622	1-128-320-51	ELECT	2200MF	20%	16V
C623	1-124-910-11	ELECT	47MF	20%	50V
C624	1-124-122-11	ELECT	100MF	20%	50V
C625	1-124-360-00	ELECT	1000MF	20%	16V
C626	1-124-907-11	ELECT	10MF	20%	50V
C627	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C631	1-124-927-11	ELECT	4.7MF	20%	50V
C632	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C633	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C801	1-126-105-11	ELECT	1000MF	20%	35V
C802	1-102-030-00	CERAMIC	330PF	10%	500V
C804	1-123-948-00	ELECT	22MF	20%	250V
C805	1-162-114-00	CERAMIC	0.0047MF		2KV
C806	1-137-098-11	FILM	0.1MF	10%	100V
C807	1-106-395-00	MYLAR	0.15MF	10%	200V
C810	1-123-024-21	ELECT	33MF		160V
C811	1-136-113-00	FILM	2MF	5%	200V
C812	1-124-634-11	ELECT	1MF	20%	250V
C813	1-102-212-00	CERAMIC	820PF	10%	500V
C814	⚠ 1-161-731-51	CERAMIC	0.001MF	10%	2KV
C815	1-136-111-00	FILM	1MF	5%	200V (KV-E2521D ONLY)
	1-136-540-11	FILM	0.82MF	5%	200V (KV-E2921D ONLY)
C817	⚠ 1-136-565-11	FILM	0.015MF	3%	1.4KV (KV-E2521D ONLY)
	⚠ 1-136-591-11	FILM	0.017MF	3%	1.4KV (KV-E2921D ONLY)
C818	⚠ 1-129-721-51	FILM	0.039MF	10%	630V
C819	⚠ 1-161-731-51	CERAMIC	0.001MF	10%	2KV

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
C820	1-137-046-11	FILM 0.0082MF	10% 400V
C821	⚠1-162-116-51	CERAMIC 680PF	10% 2KV (KV-E2521D ONLY)
	⚠1-162-134-51	CERAMIC 470PF	10% 2KV (KV-E2921D ONLY)
C822	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C823	1-137-043-11	FILM 0.0047MF	10% 400V
C824	1-102-212-00	CERAMIC 820PF	10% 500V
C825	1-137-102-11	FILM 0.022MF	10% 250V
C1601	⚠1-136-518-11	FILM 0.33MF	20% 300V
C1602	⚠1-136-519-11	FILM 0.47MF	20% 300V
C1603	⚠1-164-246-51	CERAMIC 0.0022MF	20% 400V (KV-E2921D ONLY)
C1604	⚠1-164-246-51	CERAMIC 0.0022MF	20% 400V (KV-E2521D ONLY)
C1605	⚠1-164-246-51	CERAMIC 0.0022MF	20% 400V
C1607	⚠1-161-964-61	CERAMIC 0.0047MF	250V

<FILTER>

CF001	1-577-364-11	VIBRATOR, CERAMIC	
CF501	1-567-888-11	OSCILLATOR, CERAMIC	

<CONNECTOR>

CND801	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	(KV-E2921D ONLY)

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D003	8-719-911-19	DIODE 1SS119	
D005	8-719-109-89	DIODE RD5.6ES-B2	
D006	8-719-982-24	DIODE MTZJ-33A	
D007	8-719-982-08	DIODE MTZJ-3.9B	
D009	8-719-109-89	DIODE RD5.6ES-B2	
D010	8-719-921-54	DIODE MTZJ-6.2B	
D011	8-719-921-54	DIODE MTZJ-6.2B	
D012	8-719-911-19	DIODE 1SS119	
D013	8-719-109-97	DIODE RD6.8ES-B2	
D271	8-719-921-88	DIODE MTZJ-13B	
D272	8-719-911-19	DIODE 1SS119	
D501	8-719-911-19	DIODE 1SS119	
D504	8-719-911-55	DIODE U05G	
D506	8-719-800-76	DIODE 1SS226 (KV-E2521D ONLY)	
D508	8-719-911-19	DIODE 1SS119	
D509	8-719-911-19	DIODE 1SS119	
D511	8-719-911-55	DIODE U05G	
D512	8-719-911-55	DIODE U05G	
D513	8-719-010-34	DIODE UZ-4.7BSC	
D514	8-719-911-19	DIODE 1SS119 (KV-E2921D ONLY)	
D515	8-719-911-19	DIODE 1SS119 (KV-E2921D ONLY)	
D601	⚠8-719-510-63	DIODE D4SB60L-F	
D602	8-719-300-33	DIODE RU-3AM	
D603	8-719-911-55	DIODE U05G	
D604	8-719-911-55	DIODE U05G	
D605	8-719-911-55	DIODE U05G	
D606	8-719-300-33	DIODE RU-3AM	
D607	8-719-300-33	DIODE RU-3AM	
D608	8-719-300-33	DIODE RU-3AM	
D609	8-719-982-24	DIODE MTZJ-33A	
D610	8-719-300-59	DIODE CTU-12S	
D611	8-719-900-26	DIODE ERD29-08J	
D612	8-719-300-59	DIODE CTU-12S	
D613	8-719-979-85	DIODE EGP20G	
D614	8-719-979-85	DIODE EGP20G	
D616	8-719-921-54	DIODE MTZJ-6.2B	
D617	8-719-911-19	DIODE 1SS119	
D618	8-719-109-89	DIODE RD5.6ES-B2	
D619	8-719-982-24	DIODE MTZJ-33A	
D620	8-719-800-76	DIODE 1SS226	
D621	8-719-982-24	DIODE MTZJ-33A	
D622	8-719-911-19	DIODE 1SS119	
D623	8-719-911-19	DIODE 1SS119	
D624	8-719-911-19	DIODE 1SS119	
D630	8-719-921-91	DIODE MTZJ-15A	
D801	8-719-300-33	DIODE RU-3AM	
D802	8-719-300-33	DIODE RU-3AM	
D803	8-719-976-64	DIODE RGP02-17	
D804	8-719-911-55	DIODE U05G	
D805	8-719-911-55	DIODE U05G	
D806	8-719-945-80	DIODE ERC06-15S	
D807	8-719-945-80	DIODE ERC06-15S	
D808	8-719-900-26	DIODE ERD29-08J	

<IC>

IC001	8-759-515-80	IC SDA20560-A008	
IC002	8-759-208-06	IC TC4051BPHB	
IC003	8-759-945-58	IC RC4558P	
IC005	8-759-748-56	IC SDA2546	
IC251	8-759-988-94	IC TDA2050	
	4-812-134-00	RIVET NYLON, 3.5; IC251	
IC261	8-759-988-94	IC TDA2050	
	4-812-134-00	RIVET NYLON, 3.5; IC261	
IC501	8-759-970-73	IC TEA2028B	
IC502	8-759-944-57	IC TDA8170	
IC601	8-759-988-95	IC TEA2260	
IC604	8-759-510-52	IC TEA7605	
IC608	8-759-037-26	IC TYA7812CT	

<COIL>

L501	1-408-225-00	INDUCTOR 3.3UH	
L601	*1-420-872-00	COIL, AIR CORE	
L602	1-410-396-41	FERRITE BEAD INDUCTOR	
L603	1-410-396-41	FERRITE BEAD INDUCTOR	
L604	1-410-671-31	INDUCTOR 47UH	
L605	1-459-585-11	COIL (WITH CORE) (DRUM TYPE)	
L606	1-421-013-00	COIL (HORIZONTAL CHOKE) 25UH	
L607	1-410-671-31	INDUCTOR 47UH	
L801	1-459-087-00	COIL,HCC DUST CORE 3.9MMH	(KV-E2921D ONLY)
L803	1-459-104-00	COIL, DUST CORE	
L804	1-408-239-00	INDUCTOR 4.7MMH	
L805	1-459-755-11	COIL, HORIZONTAL LINEARITY	(KV-E2521D ONLY)
	1-459-907-11	COIL, HORIZONTAL LINEARITY	(KV-E2921D ONLY)
L806	1-459-111-00	COIL, DRAM CORE (CDI) (KV-E2521D ONLY)	
	1-459-087-00	COIL,HCC DUST CORE 3.9MMH	(KV-E2921D ONLY)
L809	*1-420-872-00	COIL, AIR CORE	
L810	⚠1-421-982-12	PMC (KV-E2521D ONLY)	
	⚠1-421-794-21	TRANSFORMER, FERRITE (PMT)	(KV-E2921D ONLY)

<TRANSFORMER>

LF1601	⚠1-421-866-12	LFT	
LF1602	⚠1-421-776-11	LFT	
LF1603	⚠1-421-862-11	LFT	
T601	⚠1-450-038-11	S.R.T (KV-E2521D ONLY)	

D

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
T601	⚠1-450-037-11	S.R.T (KV-E2921D ONLY)	
T602	⚠1-424-277-11	TRANSFORMER, TRIGGER PULSE	
T801	⚠1-437-090-21	HDT	
T802	⚠1-439-416-11	TRANSFORMER ASSY, FLYBACK (UX-1600)	

<IC LINK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
PS601	⚠1-532-984-91	LINK, IC (ICP-N50) 2A	
PS602	⚠1-532-984-91	LINK, IC (ICP-N50) 2A	
PS603	⚠1-532-679-91	LINK, IC (ICP-N15) 0.6A	
PS604	⚠1-532-984-91	LINK, IC (ICP-N50) 2A	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q001	8-729-901-01	TRANSISTOR DTC144EK	
Q002	8-729-901-01	TRANSISTOR DTC144EK	
Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
Q005	8-729-901-01	TRANSISTOR DTC144EK	
Q006	8-729-901-01	TRANSISTOR DTC144EK	
Q007	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q008	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q009	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q010	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q251	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q261	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q271	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q502	8-729-216-22	TRANSISTOR 2SA1162-G	
Q505	8-729-140-96	TRANSISTOR 2SD774-34	
Q506	8-729-140-97	TRANSISTOR 2SB734-34	
Q507	8-729-216-22	TRANSISTOR 2SA1162-G	
Q598	8-729-216-22	TRANSISTOR 2SA1162-G	
Q601	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q602	8-729-209-02	TRANSISTOR 2SD1548-LB	
Q603	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q604	8-729-216-22	TRANSISTOR 2SA1162-G	
Q605	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q606	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q607	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q608	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q609	8-729-320-62	TRANSISTOR 2SD789-34	
Q801	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q804	8-729-304-50	TRANSISTOR 2SD1941-06	
Q805	8-729-119-80	TRANSISTOR 2SC2688-LK	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR1	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR3	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR4	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR5	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR6	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR7	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR8	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R001	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R002	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R003	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R005	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R006	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R007	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R008	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R009	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R010	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R011	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R012	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R013	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R014	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R015	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R016	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R017	1-216-748-11	METAL GLAZE	39K	5%	1/10W	
R018	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R019	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R020	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R021	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R022	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R024	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R025	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R026	1-216-182-00	METAL GLAZE	220	5%	1/8W	
R027	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R028	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R029	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R030	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R031	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R032	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R033	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R034	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R035	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R036	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R037	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R038	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R039	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R040	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R041	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R042	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R043	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R044	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R045	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R046	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R047	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R048	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R049	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R050	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R051	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R052	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R053	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R054	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R055	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R056	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R057	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R058	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R059	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R060	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R061	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R062	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R063	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R064	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R065	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R066	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R067	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R068	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R069	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R070	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R071	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R072	1-216-222-00	METAL GLAZE	10K	5%	1/8W	
R073	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R075	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R076	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R078	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R079	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R080	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R081	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R082	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R083	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R084	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R085	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R086	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R087	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R088	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R093	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R094	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R095	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R096	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R098	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R251	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R252	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R253	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R254	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R255	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R256	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R257	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R258	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R259	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R261	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R262	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R263	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R264	1-216-357-00	METAL OXIDE	4.7	5%	1W	F
R265	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R266	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R267	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R268	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R269	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R270	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R271	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R272	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R273	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R274	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R500	1-216-115-00	METAL GLAZE	560K	5%	1/10W	
R501	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R502	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R503	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R504	1-249-420-11	CARBON	1.8K	5%	1/4W	
R505	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R506	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R509	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R510	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R514	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R515	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R517	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R518	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R519	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R520	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R521	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R522	1-215-469-00	METAL	100K	1%	1/6W	
R523	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R524	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R525	1-216-049-00	METAL GLAZE	1K	5%	1/10W	(KV-E2521D ONLY)
R526	1-249-409-11	CARBON	220	5%	1/4W	F
R527	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R528	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R529	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R530	1-249-448-11	CARBON	1.2	5%	1/4W	F
R531	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R532	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R533	1-216-295-00	METAL GLAZE	0	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R534	1-216-119-00	METAL GLAZE	820K	5%	1/10W	
R535	1-249-749-00	CARBON	2.2M	5%	1/4W	
R536	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R537	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R538	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R539	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R540	1-216-013-00	METAL GLAZE	33	5%	1/10W	
R541	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R542	1-216-308-00	METAL GLAZE	4.7	5%	1/10W	
R543	1-249-451-11	CARBON	2.2	5%	1/4W	
R544	1-247-745-11	CARBON	330	5%	1/2W	
R545	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R546	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R547	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R548	1-216-349-00	METAL OXIDE	1	5%	1W	F
R549	1-216-454-11	METAL OXIDE	390	5%	2W	F
R550	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R551	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R553	1-215-869-11	METAL OXIDE	1K	5%	1W	
R554	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R555	1-216-129-00	METAL GLAZE	2.2M	5%	1/10W	
R556	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R557	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R558	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R559	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R560	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R561	1-216-107-00	METAL GLAZE	270K	5%	1/10W	(KV-E2921D ONLY)
R570	1-216-045-00	METAL GLAZE	680	5%	1/10W	(KV-E2921D ONLY)
R591	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R592	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R593	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R594	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R597	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R598	1-215-900-11	METAL OXIDE	22K	5%	2W	F
R600	1-249-381-11	CARBON	1	5%	1/4W	
R601	1-216-353-00	METAL OXIDE	2.2	5%	1W	F
R603	1-216-469-11	METAL OXIDE	12	5%	3W	F
R604	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R605	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R606	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R607	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	(KV-E2521D ONLY)
	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	(KV-E2921D ONLY)
R608	1-216-488-11	METAL OXIDE	18K	5%	3W	F
R609	1-216-007-00	METAL GLAZE	18	5%	1/10W	
R610	1-244-941-00	CARBON	680K	5%	1/2W	
R611	1-216-015-00	METAL GLAZE	39	5%	1/10W	
R612	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R613	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R614	1-205-758-11	WIREWOUND	100	10%	10W	F
R616	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R617	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R618	1-216-431-11	METAL OXIDE	560	5%	1W	F
R619	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R620	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R621	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R622	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R623	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R624	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R625	1-215-865-11	METAL OXIDE	220	5%	1W	F

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

D VM V

REF.NO.	PART NO.	DESCRIPTION				REMARK
R626	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R628	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R629	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R633	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R634	1-216-430-11	METAL OXIDE	390	5%	1W	F
R635	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R636	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R643	1-217-189-21	WIREWOUND	0.12	5%	2W	F
R651	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R653	1-205-758-11	WIREWOUND	100	10%	10W	F
R802	1-249-443-11	CARBON	0.47	5%	1/4W	F
R805	1-249-448-11	CARBON	1.2	5%	1/4W	F
R806	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R807	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R809	1-202-821-11	SOLID	1.8K	10%	1/2W	
R810	1-202-818-00	SOLID	1K	10%	1/2W	
R811	1-215-882-00	METAL OXIDE	22	5%	2W	F
R812	1-249-494-11	CARBON	68K	5%	1/2W	
						(KV-E2521D ONLY)
	1-247-281-00	CARBON	51K	5%	1/2W	
						(KV-E2921D ONLY)
R815	1-215-884-11	METAL OXIDE	47	5%	2W	F
R816	1-215-868-00	METAL OXIDE	680	5%	1W	F
R817	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R820	1-249-403-11	CARBON	68	5%	1/4W	
R821	1-247-725-11	CARBON	10K	5%	1/4W	F
R822	1-217-778-11	FUSIBLE	1K	5%	1W	F
R825	1-216-345-11	METAL OXIDE	0.47	5%	1W	F
R826	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R827	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R828	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R829	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R831	1-249-451-11	CARBON	2.2	5%	1/4W	
R1601⚠	1-246-513-75	CARBON	47K	5%	1/4W	
R1602⚠	1-244-945-91	CARBON	1M	5%	1/2W	
R1603⚠	1-217-328-11	WIREWOUND	2.7	10%	7W	F
R1604⚠	1-246-513-75	CARBON	47K	5%	1/4W	
R1605⚠	1-218-265-91	METAL GLAZE	8.2M	5%	1W	
R5501	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R5503	1-216-308-00	METAL GLAZE	4.7	5%	1/10W	
						(KV-E2521D ONLY)
	1-216-001-00	METAL GLAZE	10	5%	1/10W	
						(KV-E2921D ONLY)
R5504	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R5505	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R5506	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
						(KV-E2921D ONLY)

<VARIABLE RESISTOR>

RV501	1-238-013-11	RES, ADJ, CARBON 2.2K
RV502	1-238-016-11	RES, ADJ, CARBON 10K
RV601	1-238-011-11	RES, ADJ, CARBON 470

<SPARK GAP>

SG801	1-519-422-11	GAP, SPARK

<THERMISTOR>

THP601⚠	1-808-059-32	THERMISTOR, POSITIVE

REF.NO. PART NO. DESCRIPTION REMARK

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*1-634-193-11 VM BOARD (KV-E2921D ONLY)
****

*1-568-878-51 PIN, CONNECTOR 3P

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C751	1-101-361-00	CERAMIC	150PF	5%	50V
C752	1-108-629-11	MYLAR	0.018MF	10%	100V
C753	1-137-047-11	FILM	0.01MF	10%	400V
C754	1-102-980-00	CERAMIC	270PF	5%	50V
C757	1-108-692-11	MYLAR	0.01MF	10%	200V
C759	1-123-875-11	ELECT	10MF	20%	50V
C760	1-124-917-11	ELECT	33MF	20%	50V
C761	1-101-006-00	CERAMIC	0.047MF		50V
C762	1-137-047-11	FILM	0.01MF	10%	400V

<COIL>

L751	1-408-413-00	INDUCTOR	22UH
L770	1-410-665-31	INDUCTOR	15UH

<TRANSISTOR>

Q751	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q752	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q753	8-729-140-97	TRANSISTOR 2SB734-34
Q754	8-729-140-96	TRANSISTOR 2SD774-34

<RESISTOR>

R751	1-249-418-11	CARBON	1.2K	5%	1/4W	
R752	1-249-426-11	CARBON	5.6K	5%	1/4W	
R753	1-249-414-11	CARBON	560	5%	1/4W	
R754	1-249-434-11	CARBON	27K	5%	1/4W	
R755	1-249-405-11	CARBON	100	5%	1/4W	
R756	1-249-419-11	CARBON	1.5K	5%	1/4W	
R757	1-249-405-11	CARBON	100	5%	1/4W	
R758	1-249-409-11	CARBON	220	5%	1/4W	
R760	1-249-411-11	CARBON	330	5%	1/4W	
R761	1-249-429-11	CARBON	10K	5%	1/4W	
R762	1-247-895-00	CARBON	470K	5%	1/4W	
R763	1-249-429-11	CARBON	10K	5%	1/4W	
R764	1-249-455-11	CARBON	4.7	5%	1/4W	F
R765	1-249-455-11	CARBON	4.7	5%	1/4W	F
R766	1-247-753-11	CARBON	1.2K	5%	1/2W	
R767	1-247-751-11	CARBON	820	5%	1/2W	
R768	1-215-887-00	METAL OXIDE	150	5%	2W	F
R769	1-212-889-00	FUSIBLE	220	5%	1/4W	F

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A-1645-013-A V BOARD, COMPLETE
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<CAPACITOR>

C1	1-126-101-11	ELECT	100MF	20%	16V
C2	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C3	1-124-120-11	ELECT	220MF	20%	16V
C4	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C5	1-124-120-11	ELECT	220MF	20%	16V
C6	1-163-038-00	CERAMIC CHIP	0.1MF		25V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C7	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C8	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C9	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C10	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C11	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C12	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C13	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C14	1-124-927-11	ELECT	4.7MF	20%	50V
C15	1-124-927-11	ELECT	4.7MF	20%	50V
C16	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C17	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C18	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C19	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
		<CONNECTOR>			
CNV1	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
CNV2	*1-565-393-11	CONNECTOR, BOARD TO BOARD			
		<DIODE>			
D1	8-719-105-91	DIODE RD5.6M-B2			
D3	8-719-914-44	DIODE DAP202K			
D4	8-719-400-18	DIODE MA152WK			
D5	8-719-914-44	DIODE DAP202K			
D6	8-719-400-18	DIODE MA152WK			
D7	8-719-105-52	DIODE RD3.6M-B2			
D9	8-719-106-17	DIODE RD6.8M-B2			
		<IC>			
IC1	8-759-038-58	IC SDA20162-A002			
IC2	8-759-510-46	IC SAA5246P/E			
IC3	8-759-510-49	IC FCB61C65-70P			
		<COIL>			
L1	1-408-403-00	INDUCTOR	3.3UH		
L2	1-408-407-00	INDUCTOR	6.8UH		
L3	1-408-407-00	INDUCTOR	6.8UH		
L4	1-408-407-00	INDUCTOR	6.8UH		
		<IC LINK>			
PS1	⚠1-532-679-91	LINK, IC (ICP-N15) 0.6A			
		<TRANSISTOR>			
Q1	8-729-900-53	TRANSISTOR DTC114EK			
Q2	8-729-920-92	TRANSISTOR 2SD2096-EF			
Q3	8-729-901-78	TRANSISTOR 2SC2412K-R			
Q4	8-729-901-78	TRANSISTOR 2SC2412K-R			
Q5	8-729-807-87	TRANSISTOR 2SB1295-UL6			
Q6	8-729-807-87	TRANSISTOR 2SB1295-UL6			
Q7	8-729-807-87	TRANSISTOR 2SB1295-UL6			
Q8	8-729-901-78	TRANSISTOR 2SC2412K-R			
		<RESISTOR>			
JR01	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR02	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR03	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR08	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR09	1-216-295-00	METAL GLAZE	0	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
JR11	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR12	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR13	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR14	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR16	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR17	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR21	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR22	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR23	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR24	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR26	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR27	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR201	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR204	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR207	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR208	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR211	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR213	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR219	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR220	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR223	1-216-295-00	METAL GLAZE	0	5%	1/10W
R1	1-218-326-11	METAL GLAZE	470	5%	1/2W
R3	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R4	1-216-025-00	METAL GLAZE	100	5%	1/10W
R5	1-216-047-00	METAL GLAZE	820	5%	1/10W
R6	1-216-001-00	METAL GLAZE	10	5%	1/10W
R7	1-216-083-00	METAL GLAZE	27K	5%	1/10W
R8	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R9	1-216-308-00	METAL GLAZE	4.7	5%	1/10W
R02	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R10	1-218-325-11	METAL GLAZE	120	5%	1/4W
R11	1-218-325-11	METAL GLAZE	120	5%	1/4W
R12	1-218-325-11	METAL GLAZE	120	5%	1/4W
R13	1-216-025-00	METAL GLAZE	100	5%	1/10W
R14	1-216-001-00	METAL GLAZE	10	5%	1/10W
R15	1-216-013-00	METAL GLAZE	33	5%	1/10W
R16	1-216-013-00	METAL GLAZE	33	5%	1/10W
R17	1-216-013-00	METAL GLAZE	33	5%	1/10W
R18	1-216-025-00	METAL GLAZE	100	5%	1/10W
R19	1-216-025-00	METAL GLAZE	100	5%	1/10W
R20	1-216-041-00	METAL GLAZE	470	5%	1/10W
R21	1-216-041-00	METAL GLAZE	470	5%	1/10W
R22	1-216-168-00	METAL GLAZE	56	5%	1/8W
R23	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R24	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R25	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R26	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R27	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R28	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R34	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R35	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R40	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R41	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R42	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R44	1-216-295-00	METAL GLAZE	0	5%	1/10W
R46	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R47	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R49	1-216-049-00	METAL GLAZE	1K	5%	1/10W
		<VARIABLE RESISTOR>			
RV1	1-238-012-11	RES, ADJ, CARBON 1K			

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X1	1-579-266-21	CRYSTAL VIBRATOR	
X2	1-577-364-11	VIBRATOR, CERAMIC	

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*1-638-391-11 H1 BOARD
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REF.NO.	PART NO.	DESCRIPTION	REMARK
	1-562-837-11	JACK	
	*1-564-512-11	PLUG, CONNECTOR 9P	
	1-568-678-11	TERMINAL BLOCK, S 3P	
	*1-568-879-51	PIN, CONNECTOR 4P	
	*1-568-881-51	PIN, CONNECTOR 6P	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1651	1-249-413-11	CARBON	470	5%	1/4W	
R1652	1-249-413-11	CARBON	470	5%	1/4W	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S1651	1-571-532-21	SWITCH, TACTIL	
S1652	1-571-532-21	SWITCH, TACTIL	
S1653	1-571-532-21	SWITCH, TACTIL	

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*1-638-392-11 H2 BOARD
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REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-568-882-51	PIN, CONNECTOR 7P	
	*4-374-987-01	GUIDE, LIGHT	
	*4-381-686-01	BRACKET (B), LIGHT GUIDE	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1651	8-719-948-31	DIODE LD-201VR	
	*4-201-076-01	HOLDER, LED; D1651	
D1652	8-719-948-31	DIODE LD-201VR	
	*4-201-076-01	HOLDER, LED; D1652	
D1654	8-719-948-31	DIODE LD-201VR	
	*4-201-076-01	HOLDER, LED; D1654	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1651	8-741-101-75	IC SBX1610-11	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1662	1-249-413-11	CARBON	470	5%	1/4W	

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*1-638-393-11 J2 BOARD
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REF.NO.	PART NO.	DESCRIPTION	REMARK
	1-537-339-11	TERMINAL BOARD	
	*1-560-278-21	PLUG, CONNECTOR 4P	
	*1-564-517-11	PLUG, CONNECTOR 2P	
	*1-564-519-11	PLUG, CONNECTOR 4P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1751	1-101-005-00	CERAMIC	0.022MF		50V	
C1752	1-101-005-00	CERAMIC	0.022MF		50V	
C1755	1-102-114-00	CERAMIC	470PF	10%	50V	
C1756	1-102-114-00	CERAMIC	470PF	10%	50V	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1751	1-412-240-11	INDUCTOR, WIDE BAND	
L1752	1-412-240-11	INDUCTOR, WIDE BAND	

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A-1651-018-A J1 BOARD, COMPLETE (KV-E2521D ONLY)
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A-1651-020-A J1 BOARD, COMPLETE (KV-E2921D ONLY)
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REF.NO.	PART NO.	DESCRIPTION	REMARK
	1-561-534-41	SOCKET 21P	
	*1-564-524-11	PLUG, CONNECTOR 9P	
	*1-564-527-11	PLUG, CONNECTOR 12P	
	*1-566-641-11	CONNECTOR, HINGE (TAB) 18P	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C203	1-124-925-11	ELECT	2.2MF	20%	50V	
C205	1-124-927-11	ELECT	4.7MF	20%	50V	
C206	1-124-925-11	ELECT	2.2MF	20%	50V	
C207	1-124-927-11	ELECT	4.7MF	20%	50V	
C213	1-126-233-11	ELECT	22MF	20%	50V	
C214	1-137-045-11	FILM	0.0068MF	10%	400V	
C217	1-137-045-11	FILM	0.0068MF	10%	400V	
C218	1-137-102-11	FILM	0.022MF	10%	250V	
C219	1-137-102-11	FILM	0.022MF	10%	250V	
C220	1-108-686-11	MYLAR	0.0033MF	10%	100V	
C221	1-108-686-11	MYLAR	0.0033MF	10%	100V	
C222	1-137-095-11	FILM	0.056MF	10%	100V	
C223	1-137-095-11	FILM	0.056MF	10%	100V	
C224	1-137-047-11	FILM	0.01MF	10%	400V	
C225	1-136-173-00	FILM	0.47MF	5%	50V	
C226	1-136-173-00	FILM	0.47MF	5%	50V	
C227	1-137-102-11	FILM	0.022MF	10%	250V	
C228	1-137-104-11	FILM	0.033MF	10%	250V	
C229	1-137-049-11	FILM	0.015MF	10%	400V	
C230	1-137-049-11	FILM	0.015MF	10%	400V	
C231	1-124-902-00	ELECT	0.47MF	20%	50V	
C232	1-123-875-11	ELECT	10MF	20%	50V	
C233	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C234	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C235	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C236	1-163-005-11	CERAMIC CHIP	470PF	10%	50V	
C237	1-124-902-00	ELECT	0.47MF	20%	50V	
C238	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
C239	1-126-103-11	ELECT	470MF	20%	16V	
C240	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V	
C241	1-163-018-00	CERAMIC CHIP	0.0056MF	10%	50V	
C242	1-163-033-00	CERAMIC CHIP	0.022MF		50V	
C243	1-163-033-00	CERAMIC CHIP	0.022MF		50V	
C244	1-163-033-00	CERAMIC CHIP	0.022MF		50V	
C245	1-163-033-00	CERAMIC CHIP	0.022MF		50V	
C1401	1-123-875-11	ELECT	10MF	20%	50V	
C1402	1-126-103-11	ELECT	470MF	20%	16V	
C1403	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	
C1404	1-137-035-11	FILM	0.47MF	10%	100V	
C1405	1-136-017-00	CERAMIC CHIP	0.0047MF		50V	
C1406	1-137-035-11	FILM	0.47MF	10%	100V	
C1407	1-124-910-11	ELECT	47MF	20%	50V	
C1408	1-124-122-11	ELECT	100MF	20%	50V	
C1409	1-126-233-11	ELECT	22MF	20%	50V	
C1410	1-123-875-11	ELECT	10MF	20%	50V	

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1411	1-123-875-11	ELECT	10MF	20%	50V	
C1412	1-124-910-11	ELECT	47MF	20%	50V	
C1413	1-124-910-11	ELECT	47MF	20%	50V	
C1414	1-123-875-11	ELECT	10MF	20%	50V	
C1415	1-137-035-11	FILM	0.47MF	10%	100V	
C1416	1-137-035-11	FILM	0.47MF	10%	100V	
C1417	1-124-120-11	ELECT	220MF	20%	16V	
C1418	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	
C1419	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	
C1425	1-124-902-00	ELECT	0.47MF	20%	50V	
C1426	1-124-902-00	ELECT	0.47MF	20%	50V	
C1427	1-136-017-00	CERAMIC CHIP	0.0047MF		50V	
C1428	1-136-017-00	CERAMIC CHIP	0.0047MF		50V	
C1429	1-136-017-00	CERAMIC CHIP	0.0047MF		50V	
C1430	1-163-003-11	CERAMIC CHIP	330PF	10%	50V	
C1431	1-126-529-11	ELECT	0.47MF	20%	50V	
C1432	1-124-902-00	ELECT	0.47MF	20%	50V	
C1433	1-124-122-11	ELECT	100MF	20%	50V	
C1436	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C1437	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C1438	1-137-047-11	FILM	0.01MF	10%	400V	
C1439	1-137-047-11	FILM	0.01MF	10%	400V	
C1440	1-123-875-11	ELECT	10MF	20%	50V	
C1441	1-123-875-11	ELECT	10MF	20%	50V	
C1442	1-137-035-11	FILM	0.47MF	10%	100V	
C1443	1-137-035-11	FILM	0.47MF	10%	100V	
C1444	1-124-910-11	ELECT	47MF	20%	50V	
C1445	1-102-824-00	CERAMIC	470PF	5%	50V	
C1446	1-102-824-00	CERAMIC	470PF	5%	50V	
C1501	1-124-927-11	ELECT	4.7MF	20%	50V	
C1502	1-124-791-11	ELECT	1MF	20%	50V	
C1503	1-108-680-11	MYLAR	0.001MF	10%	100V	
C1504	1-124-910-11	ELECT	47MF	20%	50V	
C1505	1-137-094-11	FILM	0.047MF	10%	100V	
C1507	1-108-686-11	MYLAR	0.0033MF	10%	100V	
C1508	1-124-791-11	ELECT	1MF	20%	50V	
C1509	1-124-791-11	ELECT	1MF	20%	50V	
C1511	1-124-927-11	ELECT	4.7MF	20%	50V	
C1512	1-137-045-11	FILM	0.0068MF	10%	400V	(KV-E2521D ONLY)
C1513	1-163-105-00	CERAMIC CHIP	33PF	5%	50V	
C1514	1-137-102-11	FILM	0.022MF	10%	250V	(KV-E2521D ONLY)
C1515	1-102-117-00	CERAMIC	820PF	10%	50V	(KV-E2521D ONLY)

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1401	1-565-838-11	JACK BLOCK, PIN 2P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D201	8-719-110-14	DIODE RD9.1ES-B3	
D202	8-719-110-14	DIODE RD9.1ES-B3	
D205	8-719-110-03	DIODE RD7.5ES-B2	
D206	8-719-110-03	DIODE RD7.5ES-B2	
D1401	8-719-110-03	DIODE RD7.5ES-B2	
D1403	8-719-110-03	DIODE RD7.5ES-B2	
D1404	8-719-110-03	DIODE RD7.5ES-B2	
D1405	8-719-110-03	DIODE RD7.5ES-B2	
D1406	8-719-110-03	DIODE RD7.5ES-B2	
D1407	8-719-921-77	DIODE MTZN-10C	
D1408	8-719-110-14	DIODE RD9.1ES-B3	
D1409	8-719-110-14	DIODE RD9.1ES-B3	
D1410	8-719-110-14	DIODE RD9.1ES-B3	
D1415	8-719-110-03	DIODE RD7.5ES-B2	
D1418	8-719-110-03	DIODE RD7.5ES-B2	
D1419	8-719-110-03	DIODE RD7.5ES-B2	
D1420	8-719-110-03	DIODE RD7.5ES-B2	
D1421	8-719-110-03	DIODE RD7.5ES-B2	
D1422	8-719-110-03	DIODE RD7.5ES-B2	
D1423	8-719-110-03	DIODE RD7.5ES-B2	
D1424	8-719-110-03	DIODE RD7.5ES-B2	
D1425	8-719-110-03	DIODE RD7.5ES-B2	
D1426	8-719-110-03	DIODE RD7.5ES-B2	
D1501	8-719-300-33	DIODE RU-3AM	
D1502	8-719-911-19	DIODE 1SS119	
D1503	8-719-911-19	DIODE 1SS119	
D1504	8-719-911-19	DIODE 1SS119	
D1505	8-719-911-19	DIODE 1SS119	
D1506	8-719-982-33	DIODE MTZJ-36D	
D1507	8-719-911-19	DIODE 1SS119	
D1510	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC201	8-759-013-17	IC TDA6200	
IC1401	8-752-053-17	IC CXA1114P	
IC1402	8-759-946-32	IC TEA2014A	
IC1403	8-759-040-53	IC MC14053BCP	
IC1501	8-759-942-16	IC TEA2031A	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q201	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q202	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q1401	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1402	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q1403	8-729-901-78	TRANSISTOR 2SC2412K-R	
Q1404	8-729-216-22	TRANSISTOR 2SA1162-G	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R201	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R202	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R203	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R204	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R205	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R206	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R207	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R208	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R209	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R210	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R211	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R212	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R213	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R214	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R215	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R216	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R217	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R218	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R219	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R220	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R221	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R222	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R223	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R224	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R225	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

J1

REF.NO.	PART NO.	DESCRIPTION				REMARK
R226	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R227	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R228	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R229	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R230	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R231	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R232	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R233	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R234	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R240	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R241	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R242	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R243	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R244	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R245	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R246	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R247	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R248	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R249	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R250	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1401	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1402	1-216-170-00	METAL GLAZE	68	5%	1/8W	
R1403	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1404	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R1405	1-249-429-11	CARBON	10K	5%	1/4W	
R1407	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1408	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1409	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1410	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1411	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1412	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1413	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1414	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1415	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1416	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1417	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1418	1-247-738-11	CARBON	82	5%	1/2W	F
R1422	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1423	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1424	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1425	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1426	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1427	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R1428	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1429	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1430	1-216-170-00	METAL GLAZE	68	5%	1/8W	
R1431	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1432	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1433	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1434	1-249-393-11	CARBON	10	5%	1/4W	F
R1437	1-249-429-11	CARBON	10K	5%	1/4W	
R1440	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1441	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1442	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1443	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1444	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1445	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R1446	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1447	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1448	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1452	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1453	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1454	1-216-180-00	METAL GLAZE	180	5%	1/8W	
R1455	1-216-180-00	METAL GLAZE	180	5%	1/8W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1457	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1459	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1460	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1461	1-216-190-00	METAL GLAZE	470	5%	1/8W	
R1462	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1463	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1464	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R1465	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1466	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1467	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1468	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1469	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1470	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1471	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1472	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1473	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1474	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1476	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1477	1-216-089-00	METAL GLAZE	47K	5%	1/10W	
R1478	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1480	1-216-190-00	METAL GLAZE	470	5%	1/8W	
R1482	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R1483	1-216-178-00	METAL GLAZE	150	5%	1/8W	
R1484	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1485	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1486	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1487	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1488	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1489	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1501	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1502	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1503	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1504	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1505	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1506	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1509	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R1510	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1511	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1512	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1513	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1514	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1515	1-216-117-00	METAL GLAZE	680K	5%	1/10W	(KV-E2521D ONLY)
R1516	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1517	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1519	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R1520	1-216-113-00	METAL GLAZE	470K	5%	1/10W	(KV-E2521D ONLY)
	1-216-111-00	METAL GLAZE	390K	5%	1/10W	(KV-E2921D ONLY)
R1521	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W	
R1550	1-216-349-00	METAL OXIDE	1	5%	1W	F (KV-E2921D ONLY)
R1556	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV1501	1-238-023-11	RES, ADJ, CARBON 470K	
RV1502	1-238-016-11	RES, ADJ, CARBON 10K	
RV1503	1-238-017-11	RES, ADJ, CARBON 22K	
RV1504	1-238-012-11	RES, ADJ, CARBON 1K	
RV1505	1-238-023-11	RES, ADJ, CARBON 470K	
RV1506	1-238-017-11	RES, ADJ, CARBON 22K	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV1507	1-238-009-11	RES, ADJ, CARBON 220	
RV1508	1-238-016-11	RES, ADJ, CARBON 10K	
RV1509	1-238-023-11	RES, ADJ, CARBON 470K	

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A-1654-004-A IFG BOARD, COMPLETE
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*1-565-488-11 CONNECTOR, BOARD TO BOARD 12P

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C2	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C3	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C4	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C5	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C6	1-164-232-11	CERAMIC CHIP	0.01MF		50V
C7	1-124-791-11	ELECT	1MF	20%	50V
C8	1-123-875-11	ELECT	10MF	20%	50V
C9	1-130-471-00	MYLAR	0.001MF	5%	50V
C10	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C11	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C12	1-136-298-00	FILM	0.0033MF	2%	100V
C13	1-124-477-11	ELECT	47MF	20%	16V
C14	1-124-477-11	ELECT	47MF	20%	16V
C15	1-124-477-11	ELECT	47MF	20%	16V
C16	1-124-477-11	ELECT	47MF	20%	16V
C17	1-123-875-11	ELECT	10MF	20%	50V
C18	1-137-047-11	FILM	0.01MF	10%	400V
C19	1-137-047-11	FILM	0.01MF	10%	400V
C20	1-126-233-11	ELECT	22MF	20%	50V
C21	1-126-233-11	ELECT	22MF	20%	50V
C22	1-137-098-11	FILM	0.1MF	10%	100V
C23	1-137-031-11	FILM	0.22MF	10%	100V
C24	1-124-034-51	ELECT	33MF	20%	16V
C25	1-137-102-11	FILM	0.022MF	10%	250V
C26	1-137-094-11	FILM	0.047MF	10%	100V
C27	1-124-791-11	ELECT	1MF	20%	50V
C28	1-163-109-00	CERAMIC CHIP	47PF	5%	50V
C29	1-124-791-11	ELECT	1MF	20%	50V
C30	1-124-791-11	ELECT	1MF	20%	50V
C31	1-137-047-11	FILM	0.01MF	10%	400V
C32	1-130-479-00	MYLAR	0.0047MF	5%	50V
C33	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C34	1-137-031-11	FILM	0.22MF	10%	100V
C35	1-123-875-11	ELECT	10MF	20%	50V
C36	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C37	1-124-477-11	ELECT	47MF	20%	16V
C38	1-124-477-11	ELECT	47MF	20%	16V
C39	1-163-197-00	CERAMIC CHIP	470PF	5%	50V

<FILTER>

REF.NO.	PART NO.	DESCRIPTION
CDA1	1-404-751-11	DISCRIMINATOR, CERAMIC
CDA2	1-404-750-11	DISCRIMINATOR, CERAMIC
SFT1	1-527-840-00	FILTER, CERAMIC
SFT2	1-527-839-00	FILTER, CERAMIC

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D3	8-719-400-18	DIODE MA152WK

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC1	8-759-003-90	IC TBA129
IC2	8-759-003-90	IC TBA129
IC3	8-759-030-48	IC TDA6600-2
IC4	8-759-513-48	IC TDA2595/V9

<COIL>

REF.NO.	PART NO.	DESCRIPTION	
L1	1-408-410-00	INDUCTOR	12UH
L2	1-408-410-00	INDUCTOR	12UH
L3	1-410-064-11	INDUCTOR	2.7MMH
L4	1-408-421-00	INDUCTOR	100UH
L5	1-408-421-00	INDUCTOR	100UH

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q2	8-729-901-00	TRANSISTOR DTC124EK
Q3	8-729-216-22	TRANSISTOR 2SA1162-G
Q4	8-729-901-00	TRANSISTOR DTC124EK

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION			
JR8	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR10	1-216-296-00	METAL GLAZE	0	5%	1/8W
R1	1-216-045-00	METAL GLAZE	680	5%	1/10W
R2	1-216-043-00	METAL GLAZE	560	5%	1/10W
R3	1-216-043-00	METAL GLAZE	560	5%	1/10W
R5	1-216-045-00	METAL GLAZE	680	5%	1/10W
R6	1-216-043-00	METAL GLAZE	560	5%	1/10W
R7	1-216-043-00	METAL GLAZE	560	5%	1/10W
R9	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R11	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R12	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R13	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R15	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R16	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R17	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R18	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R19	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R20	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R22	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R24	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R25	1-216-077-00	METAL GLAZE	15K	5%	1/10W

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION
RV1	1-238-016-11	RES, ADJ, CARBON 10K
RV2	1-238-019-11	RES, ADJ, CARBON 47K

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MISCELLANEOUS
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REF.NO.	PART NO.	DESCRIPTION
	⚠1-460-091-11	COIL, DEGAUSS (KV-E2521D ONLY)
	⚠1-426-398-11	COIL, DEMAGNETIZATION (KV-E2921D ONLY)
	⚠1-451-311-21	DEFLECTION YOKE (Y25FXA)(KV-E2521D ONLY)
	⚠1-451-313-21	DEFLECTION YOKE (Y29FXA)(KV-E2921D ONLY)
	1-452-032-00	MAGNET, DISK; 10MM ϕ
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ
	⚠1-452-509-42	NECK ASSY, PICTURE TUBE (NA-308) (KV-E2921D ONLY)
	⚠1-590-501-11	CORD, POWER(WITH NOISE FILTER)
V901	⚠8-733-224-05	PICTURE TUBE (A59JWC60X)(KV-E2521D ONLY)
	⚠8-733-824-05	PICTURE TUBE (A68JYK60X)(KV-E2921D ONLY)

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